Railway Age

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EDITORIAL

Railway Age

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Reconstruction in France and Belgium

The extent of the destruction of the railways of France and Belgium during the war and the rapidity with which they are being restored, and even considerably improved in many instances, is known only in a vague way in this country. The details of the reconstruction program, the peculiar difficulties which have been met with and overcome, the general physical condition of the properties where the reconstruction is complete and the plans for future improvements are matters which are worthy of the interest of any one who is able to appreciate the successful solution of extraordinary railway problems. That the details of this work are not more generally known is due to the fact that the men who have it in charge have been, and are, so occupied with it that little opportunity has been given them to tell of their achievements even to the people of their own countries. In view of this the series of articles on railway reconstruction in France and Belgium, the first of which appears elsewhere in this issue, which Oliver F. Allen has prepared for the *Railway Age,* is especially timely. The first article deals with the extent of the destruction of the French railways and some of the work done in connection with the restoration of service on lines which had been destroyed in whole or in part. Subsequent articles will describe the work done in connection with the rebuilding of bridges and tunnels, the restoration and improvement of stations and terminals and the reconstruction work in Belgium. A knowledge of the problems which have been solved in France and Belgium may by comparison tend to make the difficulties of our own railways seem less serious.

The Foreign Trade Convention

There is a truism to the effect that exports follow investments. It follows naturally that no one earnestly working for the well-being of our export trade can afford to overlook a consideration of the feasibility of heavier American investments in foreign projects. Perhaps the greatest field for American investments in foreign countries is in railways. Such investments bring orders not only to manufacturers of railway equipment in this country but indirectly to exporters of almost every commodity. Moreover, our railway exports are each year assuming a more important place in the totals of our foreign trade. The exports of steam locomotives alone in 1920 were valued at $53,629,847. Other items on the list bring the total value of the exports of all railway supplies to well over $140,000,000 for the year. This figure compares favorably with the exports of many standard commodities. The foreign market for railway supplies, moreover, has great possibilities for further development, contingent to some extent upon increased investments in foreign railways. The failure to include in the program of the National Foreign Trade Convention, to be held in Cleveland from May 4 to 7, any recognition of either of these important subjects, as such, constitutes an omission which is difficult to understand. Other industries and other phases of the situation have a place on the program. The use of long term credits to increase our foreign sales is to be discussed thoroughly. The problems of the exporters of lumber, of textiles, of agricultural products, of motion picture films—all these will be subjects for addresses by experts in each field. In addition the convention will take up the question of inland waterways to the exclusion of the American railways which now haul and probably always will haul by far the greater part of export shipments within the United States. The railway man or the supply manufacturer will, of course, find much of value, in a general way, at the convention. The financial aspect of exporting goods, advertising our products abroad and governmental assistance will be gone into fully and anyone interested in foreign trade can profit by attending. Nevertheless, the failure of an important convention of this kind to give attention to railway investments abroad or to railway transportation at home appears to be a rather serious omission.

Car Orders and Deliveries

The car manufacturers, even with production slowed down somewhat, are rapidly decreasing the number of orders on hand and undelivered, according to the monthly statement of the Railway Car Manufacturers' Association, published in full elsewhere in this issue. The February production of freight cars for domestic service, of the 25 builders reporting, was 6,276 and the freight cars for domestic service under order and undelivered at the end of the month amounted to 26,685. In January the production was 7,008 and the number on order and undelivered was 32,008. The production in December was greater than in January and the uncompleted orders totaled 35,268. The February report shows a decrease in the delivery of freight cars to foreign purchasers but somewhat of an increase in the unfilled orders. The February deliveries of passenger cars were greater than in January but the undelivered orders showed a decline. At the current production the car manufacturers have enough unfilled orders on hand to keep them busy through the month of June. By that time it is to be hoped that a revival of business and a return of buying power to the railroads will act to prevent a shutdown in the industry.

Moral Hazards of Various Kinds

"Moral hazard" is a term used by fire insurance men to denote the risk due to possible negligence or misconduct on the part of policyholders; and it is said to be a subject of frequent discussion at the present time because of the widespread fall in commodity prices. When stocks of goods are shrinking rapidly in value the dishonest owner who would set them afire, for the purpose of selling them to the insurance company, is under a specially strong temptation. Arson fires decreased greatly between 1916 and 1919, but in 1920 they again became numerous. The moral hazard is one of which railroad officers have to take cognizance; and not alone in connection with merchandise. W. F. Hickey, president of the Railway Fire Protection Association, calls attention to the special hazard of large numbers of empty box cars now standing on lonely side tracks. This hazard is due to the dull times,

though not to any specific dishonesty. It is simply that the careless or thieving tramp has more frequent temptation to indulge in some form of deviltry. The claim department feels a moral hazard, but it is not connected with fire. H. M. Moors, freight claim agent of the Southern Pacific, in a recent address, called attention to the fact that consignees are refusing valuable shipments of freight nowadays on very flimsy pretexts, the real reason being that the goods are falling in value, and every possible trick is being tried to avoid bearing the loss. The duty of the reasonable consignee is, of course, to accept damaged goods and to assist the carrier, as far as practicable, in saving as much as possible. Under present conditions the duty of the station agent and the freight conductor is to make extra efforts to deliver goods in perfect condition and without delay, leaving no valid excuse for refusal to receive.

Rate Making Under the Transportation Act

Shippers who have been complaining of the rule of the Transportation Act which requires the Interstate Commerce Commission to try to make rates which will produce "as nearly as may be" a 5½ or 6 per cent return, and which is still frequently referred to as a guaranty although it has never yet in any month produced anywhere near a 6 per cent return, may soon come to find that the rule in the long run is calculated to reduce freight rates just as surely as it has advanced them. Under the operation of the law and an advance of 33 1/3 per cent in rates the railroads in December and January did not earn 6 per cent, or 1 per cent even, on the value which Mr. Plumb or Mr. La Follette would put upon them.

Yet on March 16 the traffic officers of the transcontinental railroads agreed to a considerable reduction in rates on lumber from the Northwest to Omaha, lower river crossings and Chicago, and on March 17 the traffic officers of the western railroads agreed to a 35 per cent reduction in the livestock rates on stockers and feeders from the ranges in the Southwest. The reduction in lumber rates was merely an equalization of the rates via Omaha with those by way of St. Paul rather than a general reduction, but it was done in order to promote the movement of some traffic that was not moving at the former rates. The reduction in cattle rates represented an emergency proposition but it was agreed to by the railroads in part because they believed they could make more money from lower rates than from higher rates and undoubtedly further reductions will be made in particular rates which can be shown to be too high.

If a shipper can prove that his present rate is too high to move business and that the railroads could make more money by reducing the rate he would much better spend his time in laying the facts before the railroads or the commission than in protesting against the injustice of a 6 per cent rule. The rate-making rule of the law was intended to direct the commission to try to let the railroads earn sufficient revenue. It was not intended to produce paper rates that would not earn revenue. If the lower rate will result in more net revenue it is more in accordance with the mandate of the Transportation Act than a higher rate.

After a while more people will appreciate that the old rule of making rates "what the traffic will bear" meant that rates should not be too high as well as it meant that they should not be too low. But there is no rule that will justify a general reduction in rates without regard to the cost of operation merely because lower rates would let the shippers do more business at the expense of the railroads or even at the expense of the taxpayers.

The National Railway Service

The new plan proposed by S. Davies Warfield, president of the National Association of Owners of Railroad Securities, has now been before the public long enough to permit an observer to see what kind of a reaction the offering of the plan has made upon the public mind or, more particularly, in railroad and financial circles. The plan was presented to Senator Cummins, chairman of the Senate Committee on Interstate Commerce, on March 21. It was given to the press about the same time; an abstract of it appeared in the *Railway Age* of March 25, page 793. It will be remembered that the plan provides for a so-called National Railway Service. At the head is a service division composed of five members of the Interstate Commerce Commission. This division is to have supervision and initiatory and regulatory powers exercised through a National Railway Service Board composed of 40 members, subdivided into two divisions—one, finance and administrative of 20 members; the other, railroad officers, also of 20 members. This board is to have a chairman, vice chairmen, etc., and an executive committee of 11 members. There are also to be organized four railway group boards, each covering one of the rate groups recently established by the Interstate Commerce Commission in the rate case. Each board is to consist of seven members, five selected by the railroads in the group, and two from the shippers. The 20 officers in the four groups make up the railway officers division of the National Railway Service Board. Further than this, each group is also to have ten committees of five members each. The ten committees of each respective group will cover different phases of railway operation; they will each report to the group board. Another clause of the plan provides for the extension of the scheme embodied in the present National Railway Service Corporation, giving the National Railway Service power to buy equipment to be leased to the carriers.

There is evidently much room for discussion as to the good or bad points of the plan. The interesting and pertinent fact is, however, that the discussion of the plan has not been along these lines at all, but rather as to the advisability and propriety of introducing and agitating a plan such as this at this time. The general impression suggested by the critics is that there are enough uncertainties in the railway situation just at this moment not to make it advisable to bring in also the discussion of these new suggestions and the many complications attendant thereto.

It is rather difficult, it will have to be admitted, to criticize a plan that has been proposed by a recognized authority like Mr. Warfield and which apparently has the approval of such leaders in the investment world as Haley Fiske, president of the Metropolitan Life Insurance Company; Darwin P. Kingsley, president of the New York Life Insurance Company, and John J. Pulleyn, president of the Emigrant Industrial Savings Bank and also of the Savings Bank Association of New York, and others of similar standing. Nevertheless, we must agree with those who submit, despite this weight of authority, that the introduction of the plan at this time is not likely to prove of as much assistance in the present railway situation as might be wished.

The Congress of the United States has but recently put on the statute books the Transportation Act of 1920. This act has been termed the most constructive piece of legislation since the passage of the Federal Reserve Act. The Transportation Act, it is true, has not done all that it was expected to do. Particularly, it has not resulted in the railroads earning the net income which is going to be necessary if the carriers are to have their proper growth and efficiency or, in fact, much of any net income. Nevertheless, the Transportation Act cannot be said to have failed. By means of its provisions, the railroads were enabled to handle in 1920 their peak load. They are not handling their peak load

now. That they are not earning sufficient net income can hardly be said to result from faults in the Transportation Act. The difficulty at present is due to the falling off in business, to the high wage scales and to the conditions of employment embodied in the national agreements with the shop and other crafts. The wage question is a most serious one. Now that President Harding has realized that fact and has taken steps to seek a solution of it, we can, no doubt, soon expect some sort of correction.

Using one of Mr. Harding's own words, what the railroads need and what the country desires is a return to "normalcy" in railroading. In view of the many omissions and commissions that took place in the 26 months of federal control, it is evident that the return to normalcy is not going to be easy. It will help most measurably, it would seem, to give the carriers a chance to operate for a period "on their own" and as provided by the Transportation Act. It does not appear that we should change the entire scheme of the act because one agency created by it, the Railroad Labor Board, has permitted a too long drawn-out discussion of an important question. That particular problem can be remedied in a simpler way, and President Harding has already taken steps to that end. The complicated plan proposed by Mr. Warfield as an amendment to the Transportation Act is not a necessary part of a program of solution to the railway problem. The rather radical changes proposed in the plan and, more particularly, its introduction to the country's attention at this time, only befog and complicate an issue that already seems to be nearing its solution.

Exhibits at the Mechanical Conventions

While the reason given by the Railway Supply Manufacturers' Association for abandoning the exhibition in connection with this year's convention of the Mechanical Division of the American Railway Association is thoroughly good, nevertheless, expressions of regret by both supply men and railway men are numerous. For some years the membership of the Railway Supply Manufacturers' Association has included some who do not believe that any good can come from exhibiting. In most instances they are manufacturers of what might be termed staple articles—devices which have undergone little or no change in design or workmanship for some years past. Even they are wrong in their attitude because they overlook the important fact that men come and go in railway service just as they do in every other walk of life; that where new generations are taking the place of the old they must be educated. Failure to educate means loss of business, sooner or later, to even an old established maker of a specialty; and while "old line companies" might feel that they are not warranted in spending money to show their wares to railway officers and many of their subordinates from all parts of the country, nevertheless it is a distinct loss to both buyer and seller when that opportunity is denied those who have something new to show and which cannot be carried around in a sample case.

Again, makers of appliances which mean increased economy and efficiency in railway operation sometimes complain that their devices fail because they are either not handled properly or else are not rightly understood; while on the other hand there are railway officers who are reluctant to apply more specialties to existing equipment because what they already have are not being properly used or maintained, sometimes through lack of facilities but as often through lack of knowledge. Here, too, there is a real loss to all concerned that they must forego a splendid chance to get together under ideal conditions.

As we have repeatedly said, and as railway officers themselves fully realize, there never was a time when it was more necessary for them to get together to discuss their common problems than now; and this applies with equal emphasis to composite gatherings of railway men and supply men, of which meetings combined with practical demonstrations in the form of working exhibits, such as have been held at Atlantic City in June for a number of years, are ideal.

It seems unfortunate that in cancelling this year's exhibit it appeared necessary to the supply manufacturers to go to the drastic limit of deciding not to have any of their representatives at the convention. This action will prove costly to many concerns because it will deprive their representatives of the opportunity to talk business within a few days with a large number of railway officers and thereby make it necessary for them to incur the expense of traveling many thousands of miles and spending many months in seeing railway officers whom they could have seen in a short time while attending the convention. However, since the supply concerns have been asked by their own association not to send representatives to the convention, all of them, in justice to each other, should in good faith comply with the request.

A Strange Hallucination About Railway Rates

One of the most extraordinary hallucinations regarding a business matter ever known is that of people who argue that the railways would fare better under present conditions if they would make general reductions in their rates. They reason that the high rates have stopped the movement of a large amount of freight, and that the railways would make more money if they would reduce the rates and thereby revive the traffic.

There is the strongest reason for believing that the tremendous reduction of traffic has been due almost entirely to general business conditions, and would have come if there had been no advances in rates. If this is true, a reduction of rates to the old basis would not be followed by a revival of traffic unless the general business conditions that caused it to decline were removed.

Suppose, however, that a restoration of the old rates would immediately restore the old traffic. Where would this leave the railways? We can answer this question with the greatest accuracy, because we know exactly the position they were in before the rates were advanced.

In February, 1920, the last month of government control, the railways moved the largest traffic ever handled in that month. The old rates were in effect, and they earned $270,000 a day less than the amount required to pay their operating expenses and taxes. With the government guarantees added, they incurred a deficit of $1,930,000 a day.

Effective May 1, the Railroad Labor Board awarded advances in wages averaging $2,100,000 a day. In the four months from May 1 to September 1, the railways *handled the largest traffic they ever did*—a traffic that taxed their facilities to their capacity—and in these months, with the advanced wages and the old rates in effect, they earned $1,444,000 a day less than enough barely to pay their operating expenses and taxes. With the government guarantees added, their deficit during the last four months before the rates were advanced was over $4,000,000 a day, or at the rate of about $1,500,000,000 a year.

It is obvious, therefore, that to restore the old rates, even if this did restore the old traffic, would be to restore the old deficit of over $4,000,000 a day, and throw every railroad in the country into the bankruptcy courts. Since the rates were advanced the traffic has greatly declined, but in spite of an unprecedented decline of traffic the railways in the first five months the present rates were in effect did earn their operating expenses and taxes, which they were not doing

before, and in addition a net return averaging 2.85 per cent. This is much less than 6 per cent, and as the traffic has declined the return earned also has declined; but bad as it is, it is much better than failing by $1,444,000 even to earn operating expenses and taxes.

The *Railway Age* agrees with those who contend that rates should soon be reduced. But from the standpoint of the welfare of the railways, of travelers and shippers and of the public, it is hardly less than insane even to suggest that any general reduction of rates shall be made until relatively much larger reductions shall previously have been made in operating expenses, and especially in the payroll.

The present financial troubles of the railways are due quite as much to an excessive payroll caused by unreasonable rules and working conditions and excessive wages as they are to the decline of traffic; and anybody who seriously suggests general reductions of rates without previous reduction of the railroad payroll is either hopelessly ignorant of the facts about the present railway situation or is an entirely fit subject for a lunatic asylum.

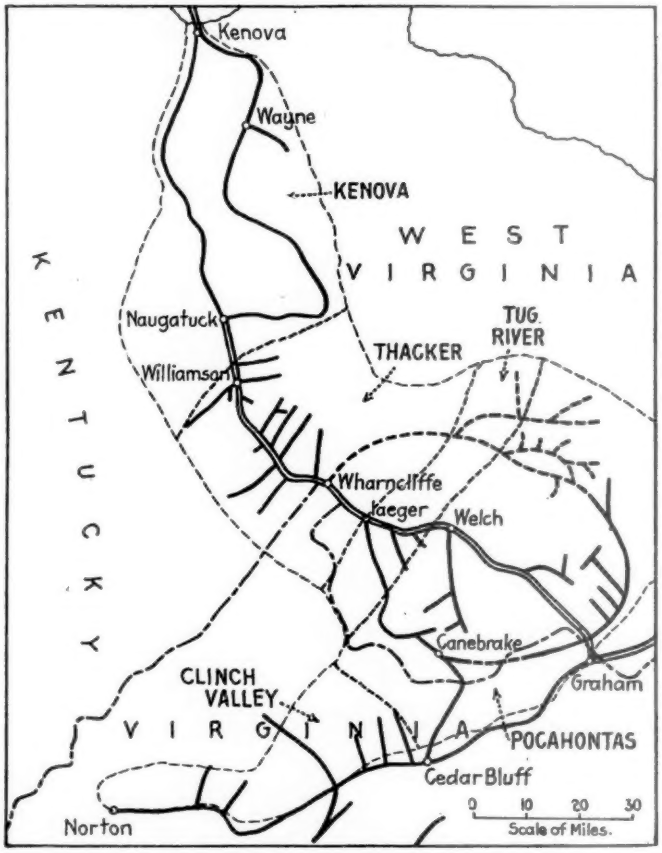
Norfolk & Western

PERUSAL OF THE ANNUAL REPORT of the Norfolk & Western for 1920 indicates that this carrier did not have in like degree that great expansion in business and in gross earnings, as compared with 1919, which characterized its immediate neighbors, the Chesapeake & Ohio and the Virginian. The latter two roads were enabled to expand their net railway operating income measurably as between the two years despite great increases in expenses. On the Norfolk & Western the net railway operating income was considerably less in 1920 than in 1919. Increases of 80.83 per cent in costs of fuel, of 31.53 per cent in payrolls and of 6.10 per cent in costs of materials and supplies prevented the Norfolk & Western from realizing the advantages of increases of 7.22 per cent in tons of revenue freight carried, of 10.33 per cent in revenue ton-miles, or of 15.57 per cent in total transportation revenues.

It has become something of a fad in financial circles of late to compare the operations of the Norfolk & Western with the Chesapeake & Ohio, rather to the advantage of the latter. The comparison cannot be discussed at great length in this review, because the 1920 report of the Chesapeake & Ohio is not yet available to permit of an analysis of the detailed operating figures for that property. As far as gross and net earnings are concerned, it is apparent that the Norfolk & Western did not do nearly as well in 1920 as the Chesapeake & Ohio or the Virginian, although it did come through rather better than most of the other roads of the country.

All of these three roads are coal roads in adjacent territory. The bituminous coal tonnage of the Norfolk & Western constitutes about 64 per cent of the total tonnage. On the Chesapeake & Ohio, it constitutes about 68 per cent, and on the Virginian almost 90 per cent. One of the striking features of the coal business in 1920 was export coal, which trade reached its peak about October, but fell off considerably after that month. The three roads have coal-dumping facilities of the most modern type at Hampton Roads, the Chesapeake & Ohio at Newport News, the Norfolk & Western at Lamberts Point and the Virginian at Pinter's Point. The Chesapeake & Ohio was able to make a special "killing" in export trade in coal. In October it dumped at Newport News nearly 800,000 tons of coal, of which 60 per cent was for export. Its special advantage in export coal has been due to its having on its lines a coal specially desirable for export trade, in addition to which of late there has been a great expansion in the fields containing this coal. The Norfolk & Western apparently did not find itself in 1920 in as good a strategic position.

The total tons of bituminous coal moved by the Norfolk & Western in 1920 were 26,035,500, or 63.99 per cent of the total tonnage. This total was in excess of the coal tonnage moved in 1919, when 24,265,803 tons were moved, but below the totals for 1916, 1917 or 1918. The number of tons moved in 1916 was 30,653,755. The coal carried on the Norfolk & Western originates from five fields—the Pocahontas, Clinch Valley, Tug River, Thacker and Kenova. As will be seen from the map, these fields adjoin one another and are in a fairly compact area adjacent to the point where Virginia, West Virginia and Kentucky join one another. Four of the five fields are on the main line; the fifth, the Clinch Valley, is on a branch. The movement from these five fields is in both directions, the Norfolk & Western being



The Coal Fields on the Norfolk & Western

especially well equipped to handle coal either at tidewater or to the north and west, or the lakes, where it has the advantage of favorable traffic relationships with the Pennsylvania system, which, it will be remembered, has a minority stock interest in the Norfolk & Western. The company is at present extending its lines in the coal fields. It began the construction on June 1, 1920, of the Lenore branch from Lenore, W. Va., to the properties of the United Thacker Coal Company in Mingo County, W. Va., consisting of some 26,000 acres of coal lands. The branch will be completed in August, 1921, but it is expected that coal shipments will commence in June or July.

The freight revenues of the Norfolk & Western in 1920 were $73,918,301, as compared with $62,681,028 in 1919, an increase of 17.93 per cent. The gross revenues were $87,280,579, an increase of 15.57 per cent. Operating expenses in 1920 were $84,943,837, as compared with $64,021,285 in 1919, an increase of 32.62 per cent. The net railway operating income for 1920, however, was $2,839,759 as compared with $10,363,404 in 1919, a decrease of something like 70 per cent. The operating ratio in 1920 was 95.99 per cent; in 1919 it was 83.22 per cent, and in 1916, before federal control, it was 56.36 per cent. In comparison with these figures, the Cheasapeake & Ohio in 1920 had

freight revenues of $72,433,293, as compared with $53,073,001 in 1919, an increase in the neighborhood of 28 per cent. The gross earnings in 1920 were $90,190,745 as compared with $71,475,015. It will be noted that, whereas in 1919 the gross revenues of the Norfolk & Western were about $5,500,000 in excess of those of the Chesapeake & Ohio, in 1920 this position was reversed; the gross revenues of the C. & O. were nearly $3,000,000 greater than those of the N. & W. The net railway operating income of the Chesapeake & Ohio in 1920 was $11,357,968 as compared with $7,463,955 in 1919. The operating ratio in 1920 was 86.27 per cent.

On the Virginian, the freight revenues in 1920, amounting to $15,721,328, compared with $10,268,428 in 1919, an increase of over one-half. The net railway operating income in 1920 was $4,944,243 as compared with $2,541,112 in 1919, an increase in this case of nearly double. The operating ratio in 1920 was 70.39 per cent.

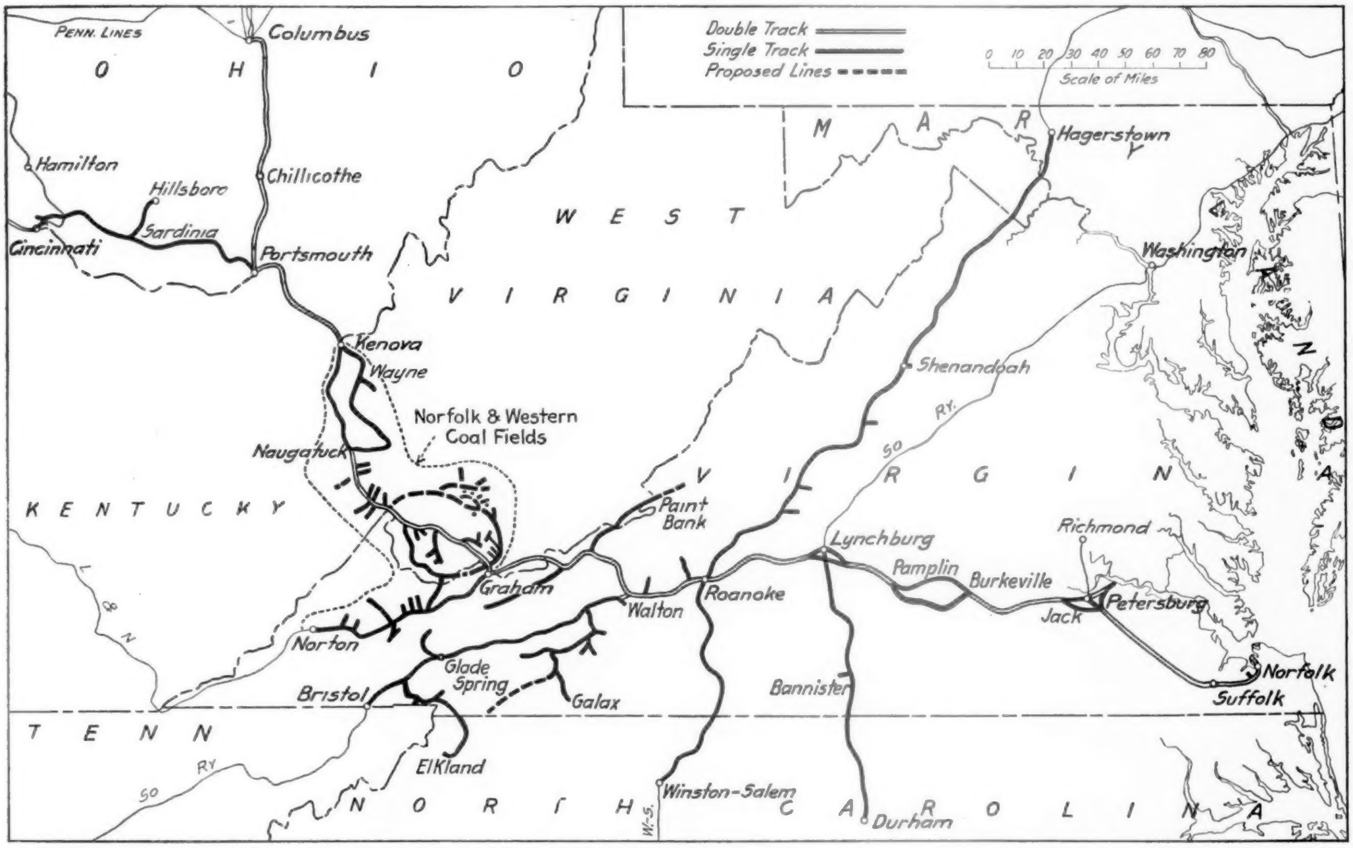
The Norfolk & Western is a rather remarkable road in many ways. First of all, it is conservatively financed. In the general balance sheet as of December 31, 1920, the investment in road is shown as $229,129,714 and in equipment as $83,662,149, a total of $312,791,863. The stock outstanding consists of $22,992,300 4 per cent preferred stock and $121,481,100 common stock, on which 7 per cent dividends are paid. The total long-term debt consists only of $114,241,000. The total corporate surplus as of December 31, 1920, was $75,757,773. The railroad itself has a finished and well-kept appearance. The roadbed is of high standard and well maintained. As compared with its two neighbors, however, the Norfolk & Western is handicapped by heavy grades. Its main line is double-tracked from Lamberts Point and Norfolk through to the end of the line at Columbus, Ohio.

The distinguishing feature about the Norfolk & Western, however, is its motive power and equipment and the facilities for taking care of them. The engine terminals and the work that the company has under way as to new engine terminal facilities indicate a realization of the importance of this feature of railroad operation, such as few roads of the country can be credited with.

The Norfolk & Western, being a bituminous coal road with a large movement of that commodity to tidewater, has been enabled, like the Virginian and the Chesapeake & Ohio, to take advantage of the special opportunity presented for the use of heavy locomotives and large capacity cars. The figures for average trainload, etc., show a progressive increase over the last several years about as follows: The average revenue trainload on the Norfolk & Western in 1920 was 1,107 tons; in 1919, the average load was 1,100 tons; in 1916, 980 tons. The revenue load per freight engine-mile in 1920 was 835 tons; in 1919, 829 tons; and in 1916, 698 tons. The average revenue load per loaded car in 1920 was 40 tons; in 1919, 37; in 1916, 34 tons. The car-miles-per-car-day in 1920 averaged 34.3, and the net ton-miles per car per day 909; in 1919, the latter figure was 715.

The road had in service at the end of 1919, 1,027 locomotives of a total tractive effort of 47,980,582. During 1920 it increased this number to 1,075, with a total tractive effort of 53,632,130, an increase in tractive effort of 11.78 per cent. The increase in tractive effort of steam freight locomotives as between the two years was 13.11 per cent. One of the features of operation on the Norfolk & Western is the use of 100-ton flat-bottom gondola cars, moved in solid trains to tidewater. In this respect the Norfolk & Western is not quite up to the Virginian, which has already received its first 120-ton cars; it is ahead of the Chesapeake & Ohio, which uses 70-ton hopper cars, and which will, however, soon receive some 100-ton gondolas. The Norfolk & Western has authorized the construction of 500 additional 100-ton cars and also of 1,000 of the 120-ton cars.

Much might be made of the improvements the Norfolk & Western is making in its engine terminals at the present time, and of those contemplated for the near future. Inas-



The Norfolk & Western

much as these things will be described in detail in an article in an early issue of the *Railway Age,* it will suffice here to point out merely some of the leading features of this work. At Roanoke the company has plans for two new 40-stall roundhouses, each with 115-ft. turntables. One of the houses is to be 115 ft. deep and is now nearing completion. The other, which is to be 130 ft. deep, is a later development. The building of these houses will require considerable change in the yard layout at Roanoke, thereby increasing the yard's capacity. At Roanoke, also, the company has installed a 1,200-ton coaling plant of the most modern type. Another interesting development is the project, now completed, of a 2,000,000-gal. water storage and a water treating plant, with a capacity of 100,000 gal. an hour, which will be the largest single-unit water softening plant in railroad service. At Bristol, the terminus of the Radford division, a new 16-stall roundhouse has been completed, 115 ft. in depth, and with a 115 ft. table, and similarly at Shenandoah, on the Shenandoah division, a 12-stall house of the same depth.

These engine terminals are only a part of a much larger plan of improvement for the Norfolk & Western. To handle the 120-ton cars there will be a new car-dumper at Lamberts Point; in connection with this improvement, piers 2 and 3 are to be electrified. It is expected that the entire program at this point will increase the capacity of these piers about one-half. At Lamberts Point also, a trimming machine for handling coal cargoes is planned. This machine is expected to save two-thirds of the labor at present required to trim a cargo; if it proves successful, five more will be installed. In addition to the new engine terminal at Bristol, mentioned above, new yard facilities also are planned; it is expected that the improvements at this point will enable the road to double its business through Bristol, at which point connection is made with the Southern Railway. Another interesting development of the many planned is a new tie-treating plant nearing completion at East Radford, Va., with a capacity of 1,000,000 ties yearly. Mention has already been made of the new Lenore branch. The total program for new construction on the road calls for the expenditure of about $18,000,000. In 1920 the total additions and betterments to roadway and structures aggregated $5,179,744 and to equipment $7,624,665.

The total freight revenue of the Norfolk & Western in 1920 was $73,918,301 as compared with $62,681 028 in 1919. The total tons carried were 40,685,743 as compared with 37,944,615 in 1919. The revenue ton-mileage in 1920, totaling 11,063,033,480, represented an increase of 10.33 per cent over 1919. The average revenue per ton-mile in 1920 was 0.668 cents; in 1919. 0.625 cents. The average haul in 1920 was 272 miles; in 1919, 264 miles.

The passenger revenues in 1920 totaled $10,374,129 as compared with $10,824,463 in 1919. The total number of revenue passengers carried was 7,376,109, the average revenue per passenger per mile was 2.996 cents, and the average journey 47 miles. The following table shows the earnings of the Norfolk & Western in 1920, as compared with 1919:

	1920	1919
Mileage operated	2,200	2,088
Freight revenue	73,918,301	62,681,028
Passenger revenue	10,374,129	10,824,463
Total operating revenue	88,489,356	76,925,599
Maintenance of way expenses	12,811,527	10,660,872
Maintenance of equipment	29,703,859	23,089,001
Traffic expenses	771,310	445,585
Transportation expenses	39,528,089	28,323,932
General expenses	1,895,550	1,274,624
Total operating expenses	84,943,837	64,021,285
Net from railway operations	3,545,519	12,904,314

The corporate income account is as follows:

Compensation, January and February less war taxes	3,411,787	3,142,630
Guaranty, March 1 to August 31, less war taxes	10,405,436	9,427,889
Net railway operating income, September 1 to December 31	3,238,122	6,282,763
Total	17,055,345	18,853,281
Gross income	17,936,740	19,972,726
Net income	12,496,788	14,513,779
Preferred dividends (4 per cent)	919,692	919,692
Common dividends (7 per cent)	8,503,989	8,459,373

Letters to the Editor

Problem of the Train-Order Signal

PHILADELPHIA.

TO THE EDITOR:

A "survey" to determine how many deceptive signals are in use is suggested in your editorial of March 25, page 775. In this connection you speculate on whether we shall ever know to what extent the Porter collision was due to the presence of the train-order signal near the crossing. A survey surely is a good thing, if you do not know already; but can it be that any responsible railroad officer, who is half awake, is ignorant concerning this feature of his plant? And, for that matter, who can believe that Engineman Long was really deceived by that signal? He did not see the hand-lantern motions of the two brakemen on the track, although the brakemen, and the government inspector, say that he could have seen them if he had looked.

And is any competent officer ignorant of the simple remedy for this supposed difficulty; the simple expedient of putting one of the two confusing signals fifteen or twenty feet higher than the other? Even if enginemen persist in the careless habit of depending on what they see a mile away, a sufficient difference in height will deprive them of all reasonable excuse. An engineman who is satisfied to see one light where he knows that he ought to see two is—well, are there any such on our fast trains?

Why do we perpetuate the farce of the train-order signal? An electric connection to the interlocked or the automatic semaphore would enable the operator to stop trains with equal facility, and at a saving of expense. That signalman at Porter had no train-order signal for the Lake Shore trains; why couldn't he also stop Michigan Central trains with a flag?

I am not connected with the "P. R. R.," but I am interested in the safety of American railroad signals, for I am speaking in behalf of the 8,720,159 men, women and children who make up the commonwealth of

PENNSYLVANIA.

Plain Talk About the Seniority Rule

VIRGINIA.

TO THE EDITOR:

I have read much recently with reference to "national agreements" and the closed shop. I am not a member of any organization affiliated with the American Federation of Labor. I believe in the principles of organized labor to a certain extent, but not enough to forsake a principle for some of its aims.

I do not believe in any body of men, any salaried chairman, or others dictating to me when, how, why, where and how much work I may do for a man, corporation or others, and under what terms I may work. I feel that I am capable of deciding these questions myself. If I sell my services to a corporation with an understanding as to the nature of my work, hours and compensation, if at any time conditions are not satisfactory I do not have to continue in their service. I am employed as a clerk, having been in continuous service for five years, deducting 19 months in the service on this side and "over there." I received a furlough to enter the service. I returned and was discharged on June 5, 1919, and on the same day applied for my regular position. The general chairman, local chairman or others in the union notified the superintendent that I quit when I entered the

service. After five months of loafing I finally was restored to service with full seniority rights. This after having taken my case up with the war department, which in turn handled it with the department of labor. Naturally my impression and opinion of the clerks' organization did not change after such treatment. Immediately after going to work these same clerks sent and brought applications for membership in their organization to me daily. Some of the other organizations, even more radical than the clerks (?), threatened my dismissal as soon as they could put the closed shop into an "agreement." This did not happen in Russia. It happened in Virginia, the state of culture, refinement, hospitality, etc.

Recently during the reduction of forces and on account of "the national agreement" I have been on the move almost continuously owing to the interpretations of certain articles in an agreement, which the officials personally told me were unfair. Any fair-minded person could easily see that the interpretation of the article was made just to apply to my case because of the fact that I refused to join an organization whose general chairman made the statement that it was unfortunate we were in France and could not have the benefit of the promotions made during our absence.

I want to work and I want advancement. I have letters showing that my work has been exceptionally good, some that say even more. I have had the superintendent and other officials compliment my work highly and tell me personally that they wanted to keep me in the service. All of which sounds good to me, but how can I advance when promotions are made according to seniority? I am just like a little log floating down stream behind a lot of dead wood. I can't get by, but must follow. There is no possibility of another epidemic of "flu," fever or other dread disease removing any of those that rank ahead of me on the seniority list. Most of them are too slow and lazy to die a quick or sudden death. They will linger until Gabriel blows first call, and then delay traffic through the golden gates by being late. If they go to hell they will put the fire out because the devil works 24 hours a day without additional compensation. A grievance committee will certainly call upon him and demand an eight-hour day and time and a half for extra work. That will put hell on the bunk.

What is the use of a man giving a corporation his best services and proving to them beyond a doubt that he is an exceptionally good man? What is the use in my work being done a little better than the other fellow's? Promotions must be decided according to a seniority list. I'll get mine when a lot of dead wood drifts through the pearly gates, after I am so old that I am half dust and the other half man. None of the men ahead of me even catch a bad cold. Their physical beings will last long after Gibraltar has been made a sand pit. When opportunity comes around it hangs around the top of a list of dead ones and by the time that he reaches my door his knock will be so soft that I will not hear it. In fact I will be listening for the last bugle call. Perhaps I will have an opportunity in years to come—about the same chance I have of receiving some of the mail sent to me overseas while Mr. Burleson was postmaster-general.

Recently I was employed by the railroad as checker. I hold and have held all kinds of positions. The national agreement has made me what I term "an orphan clerk." My shift was from four in the afternoon until twelve midnight. Under the agreement the yardmaster could not send me to the west yard after 11:30 p. m., because I could not get back by relieving time. A time freight was reported in at 11:25 p. m. The yardmaster is allowed a certain time to have the train shifted and get it out of the yard. Seeing that the yardmaster was deeply concerned over a certain delay of not less than an hour to the train I told him that I would go and get the seals, check the train and assist him in any way to get it out on time. He explained to me that he could not allow overtime if I was required to stay in the yard after midnight and under the agreement he could not ask me to even go at all.

I picked up my lantern, went to the yard, checked and listed the train and returned to the office a few minutes after twelve. The train left the yard on time. As soon as I walked into the office they met me. They? Oh, the grievance committee, I believe they call themselves. I had violated the agreement, worked ten minutes without extra compensation. To listen to their side of the case it was something like a charge of murder, rape or highway robbery.

Well, I just felt myself swell like a mountain stream after a heavy rain. Soon I overflowed my banks and with a mighty rush of "Daniel Webster's Bull" I proceeded to bawl them and hand out a few compliments. They showed about as much fight as a Hun in close-quarter physical exercise with a Yankee doughboy and a bayonet. They wanted to fight all right. They would have fought anything to get out of the way. The yardmaster almost gave me a French kiss for getting the time cars out of the yard and afterwards proved his appreciation by favoring me in many ways.

I give you this as one of the necessary evils in connection with agreements. I could wear out this No. 6 machine writing of similar cases that I actually witnessed.

The national agreement sent me here. The superintendent wanted me elsewhere. But down here and especially around this community the chief topic of conversation is "agreements," "pulls" and other nice things concerning them. Dailies are ignored and lay on the front porches until the print fades. The brotherhood this and that has taken the place of them. Read some of them. Poor, abused, crushed workingman. You see him pictured in torn overalls, torn and dilapidated hat, big toe peeping out the corner of a rundown, run over $1.98 dog cover. Pitiful sight as he looks into his dinner pail, takes out a piece of corn bread for his daily portion. Too sad!

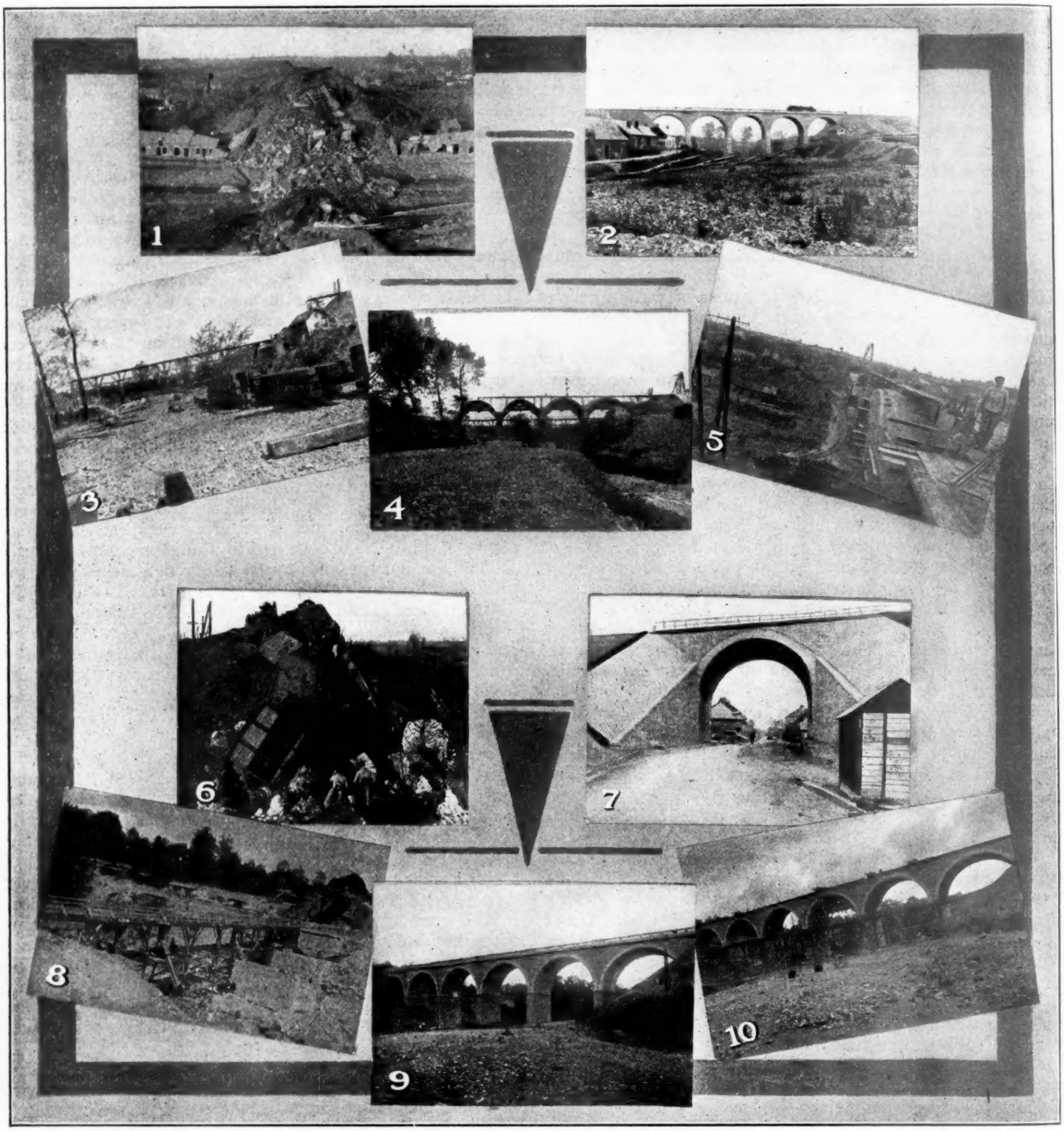
In my home town it is a little different. I see him going to work dressed in silk shirt, $15 shoes, $10 hat and the latest model suit. He stops at the Y. M. C. A. to change. After the change he proceeds to step the distance between the "Y" and the shop as though he were going to the electric chair. He could get there a minute or two ahead of time but he is afraid of the Grievance Committee. For dinner he has a king's spread or maybe he will crank a Ford and ride over town to get a hot meal at the hotel. He may hate cold food.

While on duty if the chairman of the Grievance Committee happens to see him working hard (they have a cemetery there to bury those that work themselves to death) he cautions (?) him without the aid of profanity. Believe me, efficiency has been buried so deep that it would require the strength of the former A. E. F. a short lifetime to extricate it from the débris.

I believe that some parts of an agreement are good. Mutual helpfulness and that sort of thing. But erase that part or article that makes promotion according to seniority. Let the man who has a desire to press forward have the right of way. Agreements that base promotion according to seniority cause a good man to apply the brakes, slow down and generally become unfit for promotion. Agreements have the same effect upon the speed of a good man as a hill does to a stream. If it doesn't stop him it certainly holds him up.

When corporations or others are allowed the privilege of selecting their men according to ability and qualifications, and not according to seniority, there will be an increase in efficiency that will shock the world. Don't force promotion on a man because he is senior. When the day comes that will find everyone working for advancement because he really deserves it, or because so and so is working for recognition and he must compete with him for promotion, we will show a long line running upward on the may of efficiency. Until then, hats off to Messrs. Lenine and Trotzky.

IMAN ORPHAN CLERK.



Views of Typical Railway Reconstruction in France

Figs. 1 to 5. LeGland Viaduct, on the Line from Valenciennes to Hirson. (1) War Destruction. (2) The Finished Structure in September, 1919. (3) Reconstruction Started by Light Temporary Framework. (4) Piers Completed and the Forms in Place for the First Ring of the Arches, That on the Arch at the Right Having Already Been Poured. This Viaduct Has Five Semi-circular Arches of About 54 ft. Span. (5) A Closer View of the Arch at the Right of Fig. 4. Note the 60 cm. (24 in.) Military Railway on the Temporary Structure Shown in Fig. 3, and the Concrete Blocks Used as Facing and Forms on and between the Arches.

Figs. 6 and 7. The Maquenoise Bridge, on the Line from Valenciennes to Hirson. (6) The Bridge Was Destroyed While a German Train Was Passing Over. (7) The New Bridge. A Typical Example of the Way in which the Abutments and Adjoining Slopes Are Treated in the Reconstruction.

Figs. 8 to 10. The Blagny Viaduct Also on the Line from Valenciennes to Hirson. (8) Note the Partially Finished Piers with Concrete Block Facings and the Small Aperture About Half Way up in the Side of One of Them. This is an Opening to a Chamber for Explosives Which Is Closed up and Camouflaged Later. (9) Entirely Finished in September, 1919, Six Arches of About 54 ft. Span. (10) Partly Finished. The Completed Structure With the Balustrade and Other Finishing Parts being put in Place.

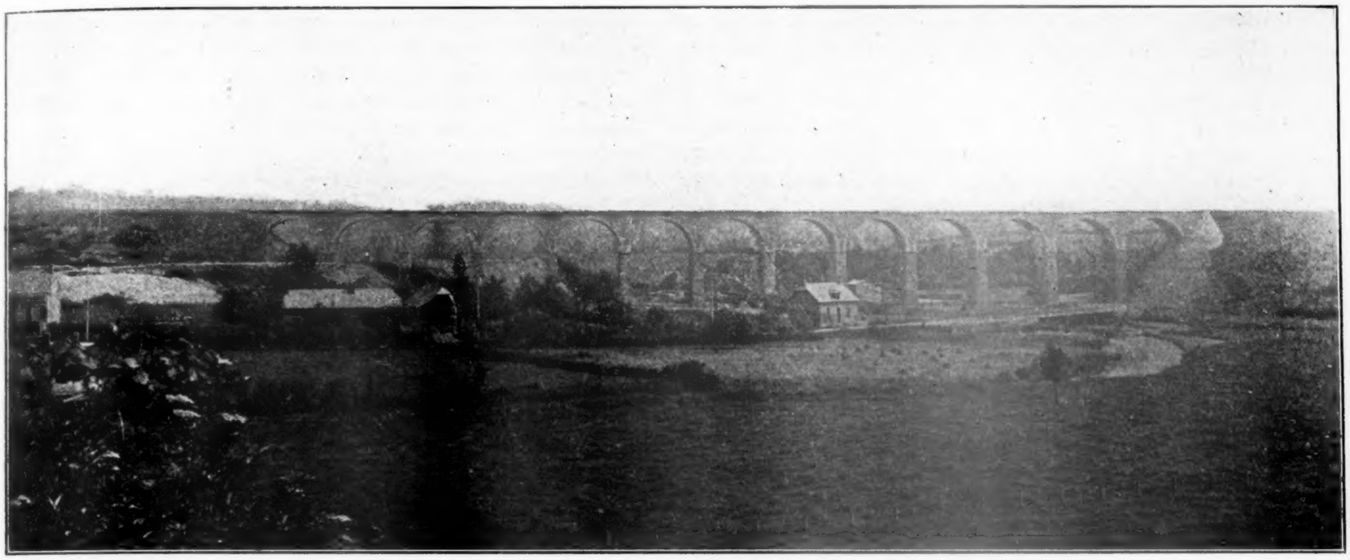


Fig. 11—Ohis Viaduct. Completed, except for the balustrade, in December 1919. In order to reduce the grades on this line the viaduct, of 13 arches of about 47 ft. span, was rebuilt about 9 ft. higher than the pre-war structure. All of the viaducts of this group were rebuilt with arches having about the same span as formerly in order to utilize parts of the original foundations.

Railway Reconstruction in France and Belgium

Extent of Destruction—Work of the Army Engineers—Plans for Permanent Improvements

By Oliver F. Allen
Formerly Major of Engineers, American Expeditionary Forces

In starting this series of articles on French and Belgian railway reconstruction, the author wishes to express his appreciation of the very many courtesies shown him by European friends to facilitate the study of the reconstruction program and its execution. The engineers, both civilian and military, who have had to do this task have found the work so tremendous and the demand for comprehensive plans looking far into the future so insistent that they have worked feverishly without rest not only since the armistice, but most of them as army railway engineers during the long strain of the war. They have had neither time nor opportunity to tell even their own people, let alone the outside world, what they have accomplished. One of the necessary but unfortunate results is that we in America do not realize how farseeing the program is nor how much has actually been done. While under the strain of this intensive work our friends in France and Belgium found time to help in collecting accurate data of which this series of articles represents only a small part.

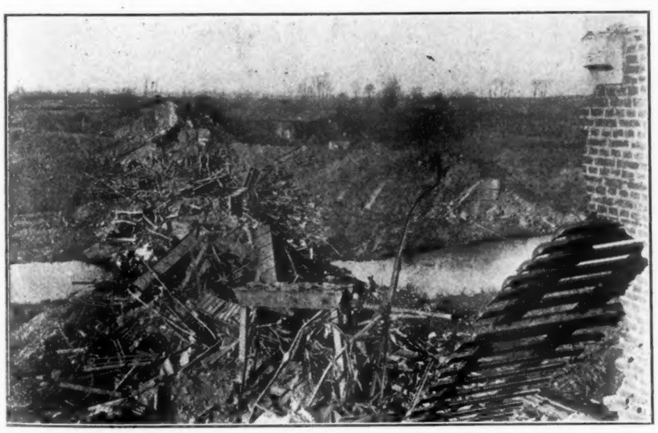


Fig. 12. Ohis Viaduct Before Reconstruction

On the line from Busigny to Hirson. A typical illustration of war destruction. A piece of German narrow gage military railway track at the right.

The Director of Railways and his staff in the Ministry of Public Works together with the engineers of the Northern Railway (Compagnie du Chemin de Fer du Nord) were especially generous, not only in furnishing information, but in giving their own precious time for showing the actual works and supplying many authentic photographs of the destruction and the different phases of the reconstruction. The engineers of the Central Association for the Resumption of Industrial Service in the Devastated Regions (Association Centrale pour la Reprise de l'Activité Industrielle dans les Régions Envahies), and of other railway and many industrial organizations, both in France and Belgium, have also been of great assistance in compiling these data.

The 10 devastated departments of France and the seriously injured parts of Belgium include a large part of their pre-war industrial regions, especially in the fields of metallurgy and coal mining. These areas were effectively served by interlaced railway lines. The invaded regions of France north of the Marne are in the territory served by the Northern Railway. One branch of it goes down the Sambre valley into Belgium along one of the lines of the German advance in 1914. From the beginning of that advance until the time of the Meuse-Argonne offensive of the American army in the late autumn of 1918 about half of the lines of the Northern Railway were in the enemy's hands. Some of the road beds were destroyed for military reasons on both sides of the fighting line as it moved back and forth. The greatest

destruction was, however, done by the enemy when retreating, especially in 1917 and just before the armistice, and was mostly not a military necessity.

The railways were laid out for the normal peace time movement of freight as dictated by industrial conditions, such as coal going from the mines to the metallurgical plants and fabricated material going from and food coming to the various industrial communities in the very active areas first over-run by the Boches. To move the supplies required by the Allied armies and secure the maximum insurance against interruptions by airplane bombing and long range shelling, certain modifications of the railways back of the lines had to be made, including such things as the construction of large transfer yards, the double tracking some single track lines, the lengthening of passing tracks and sidings and the expansion of freight terminals. In some places complete new cutoffs or loops were built around railway centers not only to furnish a detour in case of interruptions to main junctions by bombs, but to expedite the movement of freight which would have otherwise been delayed on account of the congestion at the junction points.

These modifications, while done primarily for military necessity and sometimes of a very temporary character, were frequently made a part of the general reconstruction program, especially during 1917 and 1918. For example, a loop southwest of the city of Nancy built by the French army railway engineers will be of great permanent assistance in facilitating freight movement in that part of the East and has already become an integral part of the lines of the Eastern Railway (Chemin de fer de l'Est). This loop, several miles in length, has its concrete bridges, permanent grading, drainage, first-class road bed and track as if it had been built under normal peace time conditions. Several large transfer yards built and used by the American and British armies were designed so as to have permanent value and are being utilized in the readjustment of traffic under the new conditions. Extensions of lines and additions to freight yards built solely for military requirements in order to secure greater rail-head capacity are being retained to facilitate after-the-war traffic.

When road bed, bridges or tunnels were destroyed on the Allied side of the line, temporary repairs were made by military engineers as rapidly as possible, and as the enemy was driven back this temporary reconstruction was carried forward. Some of the first jobs of the American army railway engineers in the spring of 1918 were in connection with this work. Both tracks of about 700 miles of double track line, and one of the tracks of about 70 miles of double track line together with some 100 miles of single track line were put back in service, all by military engineers of the Northern Railway. This was made possible only by the utilization of temporary structures and by making only those repairs to the road bed which were imperative for operation of the military

Fig. 13. Villeneuve Bridge

The original destruction followed by the destruction of the temporary military bridge. Note at the left the remains of the original masonry pier, and in the center a temporary military concrete pier built on the foundations of the old pier.

trains at slow speeds. To facilitate the movement of supplies a great many locomotives, not only from all parts of France, but new ones imported by the American, British and French armies were added to the pre-war supply on the lines employed for military purposes. There was considerable loss of locomotives and cars from enemy fire, capture and excessive use without adequate upkeep.

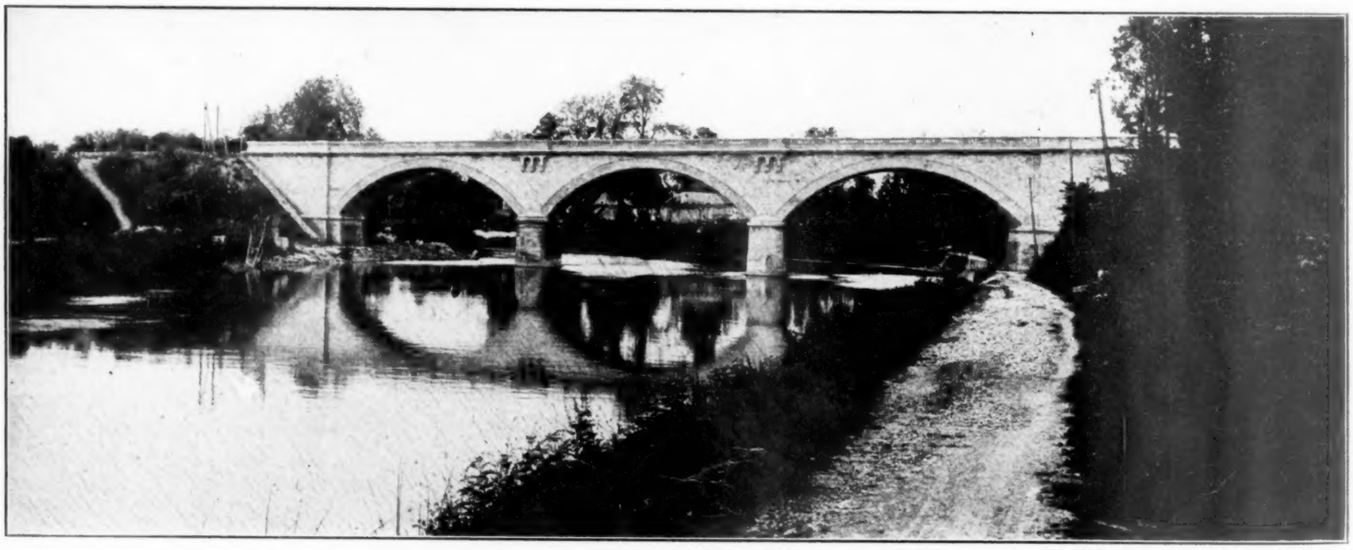


Fig. 14. Villeneuve Bridge Reconstructed

The old masonry pier at the left has been utilized. The right is a new concrete pier built on the old foundation. Note how this bridge blends with the landscape, and that the lower arches are made much flatter than the semi-circular arches of the large viaducts.

Even as provision for industrial reconstruction started in the spring of 1915, long before America seriously considered going to war, the general features of a comprehensive plan of railway reconstruction and expansion were studied by the French early in the war. Like our own organizations of railway engineers the French army railway units consisted principally of men taken from the ranks of the permanent organizations of the various railways, and consequently the liaison between the military engineers working directly under the general staff of the army, the organization of the Director

of Railways under the Ministry of Public Works, and the civilian staffs which the railways retained was so close that they were able to outline a very comprehensive program of rehabilitation. One of the constructive advantages of that program was the knowledge and ability to shape many extensions of traffic facilities of various kinds required by military necessity so that they are now utilized as permanent improvements.

Following the final evacuation by the enemy, when the railway company took possession of its property, there was the double problem of repairs to locomotives and cars so as to have rolling stock with which to move out the great bodies of troops to be demobilized and to move in the material and personnel required for the return of the refugees and the reconstruction work, and of rebuilding the bridges, road bed, etc., to carry this traffic. There were about 500 miles of completely destroyed lines, mostly single track, which had not been rebuilt by the armies because they were not essential to military operations. It was, however, necessary to get them temporarily into service immediately. There were also more than 800 bridges, about 340 railway stations, at least 5 tunnels, over 1,500 employees' houses and many repair shops, round houses, etc., completely destroyed, all on the Northern Railway's system.

The first phase, which may roughly be taken as from the time of the armistice until the end of 1919, involved temporary reconstruction only so far as to provide for moving necessary freight and troops at very moderate speeds and limited passenger service at about half pre-war speeds and without most of the pre-war luxuries. It included much of the clearing up and a big start with the permanent reconstruction. Detours, military roads, temporary bridges, etc., were utilized. Temporary army barrack buildings were kept as stations. Main lines in the devastated regions were reopened for both freight and passenger traffic in the spring and early summer of 1919.

A second phase, say the year 1920, covers the completion of nearly all permanent reconstruction of bridges and tunnels and the general restoration of lines so that traffic can follow normal avenues, be greatly increased in volume and move more safely, due not only to the better condition of rolling and roadbed, but to the reinstallation of the signals, etc. Conditions steadily improved throughout the year. Service was restored on practically all lines with regular schedules for both freight and passenger service. Traveling had become relatively comfortable. Dining cars were generally available on through trains. Tourists rode over and did not see the new bridges. They were protected by, but did not even realize the existence of the signal systems. They saw only the destroyed stations, the old army huts used in their stead, the slow schedules, the uncomfortable and disabled cars—and should not be blamed for not understanding that great progress had really been made in reconstruction. The railroad did first the things most essential to move freight and necessary passengers. The comforts of travel and such refinements as passenger stations could come later.

The final phase, which is commencing now and may last for some years, includes the completion of the reconstruction of roadbeds, signal systems, etc., and the rebuilding of freight and passenger stations in order to permit resumption of nor-

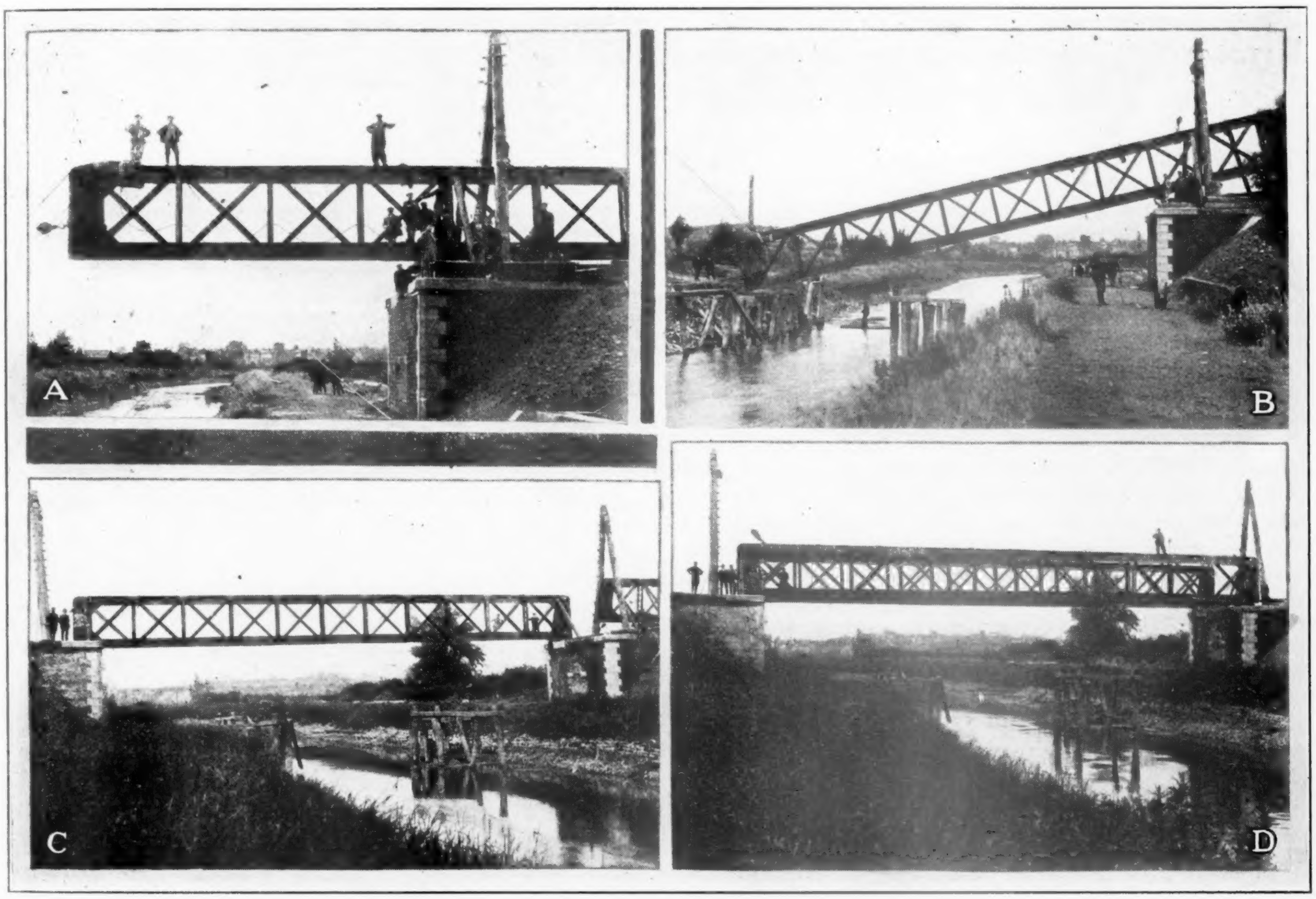


Fig. 15. Railway Bridge Over Canal at Reequignies

A—This and the successive photographs show the several phases in the placing of a temporary military girder by the French army railway engineers. This particular bridge placed a temporary wooden structure and was put in place on July 4, 1919; B—The girder further advanced; C—The first side in place; D—Both sides in place ready for floor structure.

mal traffic conditions and speeding up of trains to pre-war schedules for passenger service. Freight trains will be heavier and faster than before the war. Freight schedules will be rearranged to meet changed industrial and economic conditions. The progress made in this last phase depends largely on the coal situation and the electrification problems which will be discussed in a later article of this series.

The accompanying illustrations give some indication of the extent of the destruction of the railway properties, the temporary structures provided by the military engineers and the permanent improvements which are rapidly being built. The next article of this series, which will appear in an early issue of the *Railway Age,* will give some details of the engineering problems, particularly with reference to bridges and tunnels, met with in carrying on the work of reconstruction and the manner in which the work was done.

Commission Recommends Caution in Adjustment of Grain Rates

WASHINGTON, D. C.

RECOMMENDATIONS of the Interstate Commerce Commission relative to the adjustment of grain and grain product rates with particular reference to the relation of rates to Atlantic ports as compared with Gulf ports, also of lake and rail charges vs. all rail charges, are made in a letter from W. V. Hardie, director of traffic of the Interstate Commerce Commission, to James T. Webster, freight traffic manager of the New York Central, and the chairmen of the Western Trunk Line Committee, Eastern Traffic Executives Committee, Southwestern Tariff Bureau, and Central Freight Association, copy of which has been made public by the commission. The letter refers to the recent conference at Chicago and New York between representatives of the grain markets, Atlantic ports and Gulf ports and carriers of eastern and western territory relative to the proposed adjustments.

Under the instructions of the chairman of the commission, Director Hardie begins the letter with a statement that "the net revenues of carriers generally at the present time are far from adequate" and that "reductions in rates apparently are, therefore, at this time undesirable except insofar as they may be necessary to stimulate traffic, to remove discrimination or to relieve situations where rates appear to be unduly burdensome under present conditions."

Mr. Hardie says in part:

The whole situation is interrelated, and in determining what should be done as to any one of the situations involved, due regard should be had to the effect upon other rates and to the maintenance of a relatively proper and reasonable adjustment of rates which will not reduce the revenues of the carriers in the aggregate to a greater extent than is necessary. Various proposals have been submitted by shippers and carriers, most of which contemplate reductions in the existing rates, primarily intended to reduce differentials or differences in rates between competing markets, ports or routes, widened by percentage increases under Ex Parte 74 and previous thereto.

It is recognized that the differentials on traffic from the Missouri river to the Gulf ports for export as compared with Atlantic ports for export and of the all rail rates from Minneapolis to Eastern points as compared with the through lake and rail charges have been widened to an extent to make desirable reductions therein. Readjustments of rates to bring about this end, however, must be approached with extreme caution and having in mind all the factors which have led to the existing situation and which are likely to exist in the near future.

Having in mind these and other factors, it is not found consistent to recommend to the rail carriers that they shall adopt the proposals of the Minneapolis or of the Missouri river and Chicago markets. The former contemplates a reduction of 8 cents on export and 9½ cents on domestic traffic from Minneapolis to New York, while the latter contemplates reductions of 2 cents from the Missouri river to Chicago, 4 cents Chicago to eastern points, and 6 cents Mississippi river to eastern points. It is thought that reductions of this amount will not only reduce the revenues of the carriers to an extent greater than appears at this time necessary upon the all rail traffic but will call for reductions in the "at the east" rates below even the present reduced rates which were established September 1, 1920, and are scheduled to expire April 15, 1921.

Neither does it appear desirable to indicate approval of the recommendations of either the western or eastern carriers in full. The latter contemplate an increase of 2 cents per 100 pounds in the rates from the Missouri river and St. Louis to the Gulf. The export rate from the Missouri river has in the past three years been increased from 18½ cents to 38 cents, and it is not thought desirable at this time to express any approval of an increase in such rate. No definite opinion will be expressed relative to the rates from St. Louis or Illinois points to the Gulf ports. These rates, however, are not upon the same level as the rates from the Missouri river, the St. Louis rate at the present time apparently being 23½ cents on export traffic whereas tariffs are now on file and under suspension in I. & S. Docket 1303 proposing to increase the domestic rate St. Louis to New Orleans to 45½ cents.

After a general discussion of the details of the proposed readjustment, Director Hardie says, in part, that

Based upon the information now available and without prejudice to any different conclusions which might be reached upon a more adequate record or in a formal proceeding, there appears to be no objection to the following readjustment of rates at this time:

(a) A reduction of 3 cents east of Chicago in the all-rail export rates on grain and grain products.

(b) A reduction of 1 cent on grain and grain products from Missouri river points (including Sioux City) to Chicago and Chicago rate points, limited to apply upon export traffic only.

(c) A reduction of 4 cents in export rates east of St. Louis on grain and grain products.

(d) Changes from Peoria and other related markets corresponding to those from St. Louis and Chicago to preserve existing equalization.

(e) No reductions to be made west of St. Louis.

(f) The existing "at and east" rates on export grain, now scheduled to expire April 15, to be continued beyond that date without expiration date, but no further reductions to be made in such rates at this time.

(g) The "at and east" domestic rates on grain on April 15 to revert to the rates in effect August 25, 1920, plus 40 per cent, such increase to be applied to the net rates.

(h) No reductions at this time appear necessary in the rates on grain products east of Buffalo, either domestic or export.

(i) Lake-and-rail rates on flour for export from Chicago, Duluth and Minneapolis to be reduced in the same amounts as the all-rail rates east of Chicago, thus maintaining differentials as compared with all-rail.

(j) No reductions appear at present necessary in the rates on grain or grain products Minneapolis to Chicago.

The above are intended as suggestions which it is hoped will produce a harmonious adjustment and at the same time have the effect of reducing the differentials on all-rail grain from Minneapolis compared with lake-and-rail traffic and also reducing differentials on export traffic from the Missouri river and western territory generally to Atlantic ports as compared with Gulf ports.

It has not been found consistent to recommend the basis sought by western millers, but the proposed reductions have been, except as noted, limited to export traffic. The same factors which enter into the export situation do not appear to apply with equal force to the domestic rates. Millers of New York are not satisfied with the rates on grain products ex-lake from Buffalo, but it has not been found consistent to recommend reductions in such rates at this time. (This is not intended as expressing disapproval of certain readjustments in the rates from Buffalo to New England points set forth in Chairman Collyer's letter of February 7, which changes should apparently be made.) Reductions in the domestic rates from the west would, however, but accentuate the complaints of eastern millers.

It has not been found consistent to recommend the establishment of 'overhead' rates from Minneapolis as proposed by that market and by some of the northwestern lines. As has been stated, it has been the practice for a number of years to maintain rates into and out of the principal markets equal to the through rates and the undersigned is not prepared at this time to recommend changes which would destroy this adjustment. It is recognized that the reductions made on traffic from Minneapolis are not as great as recommended by that market or by the northwestern carriers but it is thought that a trial should be made of the rates which will result from the changes above recommended. If it then develops that further readjustment should be made, consideration can be given thereto.

Canada's Heavy Loss from Government Railways

Total Deficit of $136,000,000 for Population of 8,000,000 to Pay Absorbs One-third of Dominion's Revenues from Taxes

By J. L. Payne
Formerly Comptroller of Statistics, Department of Railways and Canals of Canada

Canada has now got far enough along in the matter of railway nationalization to permit of a calm survey of the results. With over 52 per cent of all mileage owned and operated by the state it will be agreed that the test is on a sufficiently comprehensive scale to warrant conclusions. The Dominion was not a novice in railway operation. Part of the bargain of Confederation in 1867 was the building of a line to connect the Maritime Provinces with what was then called Upper Canada, and just because the road was an integral factor in that pact it was always contended that results should not be counted as demonstrating either the soundness or unsoundness of the principle of state control. I allude to the Intercolonial.

There was never any doubt that the Intercolonial was a heavy load on the public treasury. Operating deficits were more frequent than operating surpluses. Interest charges were not made. In fact, it was always understood that the government road had bookkeeping methods peculiarly its own, with enough flexibility as to what should be charged to capital account and what to operating expenses to bring out a balance on either side practically at will.

Be that as it may, the people gave little concern to the matter. The road was a perennial football in politics, and each side blamed the other according as the fortunes of war put the Liberals or Conservatives in control. Certainly the road was not built to demonstrate the advantages of public ownership. It was built by government for the double reason that no company could be found to undertake it as a commercial proposition, and because it was felt that any loss arising from its operation should be borne by the whole people.

The Intercolonial, however, parted with all immunity from reasonable criticism when, in 1918, it was grouped with the Canadian Northern and the National Transcontinental to form the huge system now known as the Canadian National. The causes which led up to the establishment of this group of railways are familiar to American readers and need not be set forth in any detail. The story can be told in a few sentences, so that the essential facts of the case may be borne in mind as this sketch proceeds.

The Canadian Northern and the Grand Trunk Pacific fell into insolvency. An overwhelming proportion of their liabilities had been guaranteed by the government—Dominion provincial, or both. As the chief guarantor, the government took possession to protect the public treasury. The National Transcontinental was the 1,805 mile link built by government as a contribution to the Grand Trunk Pacific ocean-to-ocean scheme. It was to have been taken over by the latter on a three per cent basis; but the cost of construction was so stupendous that the parent Grand Trunk refused to live up to the bargain. The government therefore inherited its own expensive job.

Government Owns 22,500 Miles of Line

When these three roads had been thrown into a single operating group it was seen that it lacked the essential elements of a well-balanced system. At all events, that was the contention of the government. It was believed the acquirement of the pioneer Grand Trunk would produce the necessary balance as to traffic conditions. So the Grand Trunk was bought—or the necessary steps were taken to put the government in possession. The cost of the purchase is now being worked out by process of arbitration, and a tedious and expensive thing it is proving to be. With the Grand Trunk brought in, the Canadian National was swollen to a system of 22,500 miles, or 52.4 per cent of the total mileage of the Dominion. This final step was taken in 1919, and was ratified by Parliament early in 1920.

One further explanation and we shall have the facts all set forth in proper order for what follows. While these momentous changes were taking place, it must be clearly understood that the Canadian people held the position of passive spectators. They were not asked to express their judgment as to whether the assumption of these large responsibilities by the government was prudent or another way out could be found. Nor did they express any judgment. The war was on and absorbed public attention to the exclusion of practically everything else. If they had any opinion on the subject nothing in the way of press comment or platform utterances gave the slightest clue to what that opinion might be. They were told that the taking over of these roads could not be helped, that there was no other way, and that it would come out all right; and they let it go at that. They stood neutral. If they were apprehensive, they concealed it. If they had the slightest suspicion of the shock that was going to stir the whole country in 1921, they were also silent as to that. My own view is that a majority, not keenly interested anyway, believed nothing serious would happen.

Let us now see what did happen. Of the approaching catastrophe some warnings were given. Sir Herbert Holt, president of the Royal Bank of Canada, one of our big monetary institutions, spoke to his shareholders early in January last, as reported in the press, as follows:

"Government control has practically disappeared during the year just past—wheat, paper and sugar being the commodities to be freed from regulation. Government ownership of transportation systems has developed. Without any advantage to the public in efficiency or rates, the operation of our national railways during the last 12 months has resulted in a loss which will probably more than absorb the amounts collected on excess profits and income taxes for the year 1919. Unless government methods of operation are more efficient in this country than they have been in others, tax payers in Canada may find the maintenance of their railroads and fleet more expensive than pension charges and other legacies of the war combined. Of a total of $6,400,000,000 spent by the United States during the last year, $1,037,000,000 went to pay the cost incurred by the government in its control of the railroads. The present waste is obvious and the remedy should be speedy and effective. The needs of the country call for business-like administration of its assets. If this be afforded, we can attack our problems with added confidence."

Under normal conditions this statement, from such a high source, would have been a bombshell; but Sir Herbert Holt's words fell on the ears of a people grown callous. He was not heeded any more than was Noah. But I for one knew that he was talking the truth, and I took the trouble to ascertain whether or not his estimate of the probable railway loss,

as compared with the burdens arising out of the war, was under or over the mark. It was under, as we shall soon see. Sir Herbert will now know that what he foresaw as a grim possibility has actually happened.

Railway Deficit Exceeds Cost of War

The question which this analysis assumes to answer is succinctly this: What is the government railway system costing the people of Canada? I say at once that it will cost them in this year of grace not less than $130,000,000. The cost of the war, to which the president of the Royal Bank alluded, will not be more than $109,000,000, made up as follows: Interest on public debt $54,000,000, pensions $30,000,000, and all other care of returned soldiers, $25,000,000. The last item will grow less year by year. With the railways costing the country $130,000,000 and the war $109,000,000, very little is left, out of a total revenue of $450,000,000, for general purposes. It may mean continuous borrowing. Since the Canadian National system was established it has absorbed upwards of $500,000,000 of public money in one way and another to keep it going, and there may be worse to come.

The first step in making up a statement of facts is to set up a capital account for the Intercolonial and Prince Edward Island Railways—the two original examples of public ownership. What has appeared in official railway statements down to the present time has merely been the primary cost of construction. Not a penny of interest was ever charged, neither during construction nor at any later date. Deficits were ignored. The Dominion treasury took care of everything. The bonds were not ear-marked, and interest charges were absorbed along with the general liability on account of the public debt. Samuel O. Dunn took up the matter in 1916 and was able to bring the figures of what the capital account should be down to 1914.

I have taken up the work where he left off and have brought the account down to the present time. Taking Mr. Dunn's total of $380,991,916 as the starting point, and using plus and minus signs to indicate an operating surplus or deficit, the calculation works out as follows:

	Capital liability	Surplus or deficit	Interest at 4 per cent	Total
1914	....	....	....	$380,991,916
1915	$7,761,544	— $273,569	$15,560,881	404,587,910
1916	8,359,451	+2,224,692	16,428,947	427,152,616
1917	5,500,595	+1,392,957	17,250,410	448,510,664
1918	20,960,299	—2,842,917	18,892,555	491,206,435
1919	11,395,985	—3,898,415	20,260,033	526,760,868
1920	10,795,575	—7,000,000	21,662,258	566,218,701

It will be observed that there has been an increase of $185,226,785 during the past six years. According to government figures the addition during that period has been but $64,773,449, for the simple reason that only direct capital outlay for construction and purchase of equipment was charged. There was, of course, no defence for this unsound plan; but, having begun that way, accounting became a part of the general policy of easy drifting. Moreover, inasmuch as very loose methods prevailed in years gone by in railway bookkeeping, under which items were scattered around utterly out of their proper place, I am confident a true account would carry the total perhaps $100,000,000 over what is here shown; for the compounding process carried along over more than 50 years produces startling results. At the present time the capital account of the Intercolonial is officially placed at $152,300,044, and that of the Prince Edward Island at $12,633,933—a total for the two of $164,933,977. That Mr. Dunn's calculation is below the mark is clearly shown by a report just issued by the Department of Railways and Canals, which, for the first time, shows charges to capital on account of these roads amounting to $479,956,931. That does not include a farthing for interest, to say nothing of compounding.

The National Transcontinental was built by government and followed the bad precedent of the Intercolonial in respect of its capital account. It was begun in 1904 and opened for traffic in 1914. The cost is placed by the official records at $165,128,742, omitting, of course, interest at all stages and deficits. I shall not take up space to tell the story of this ill-starred road; but may say at once that the true capital account is considerably in excess of $250,000,000. The interest on that sum is reckoned at 5 per cent.

All Government Lines Losing Heavily

In dealing with the Canadian Northern unit we are brought at once into contact with standard accounting. It was the collapse of this road which brought about the present large scheme of nationalization. In fact, in one way and another the Canadian railway problem has its core in the unwarranted expansion of the Mackenzie & Mann enterprise between 1900 and 1914. But that is a story by itself, and not quite in place here. We are, for immediate purposes, merely trying to show what the existing government railway group is costing the people of Canada. With that object in view, let it be said at once that the balance sheet of the Canadian Northern for December 31, 1919, reveals a definite capital liability of $540,155,623. This includes $165,230,658 advanced by government; but we are obliged to add further advances of $69,170,910 since that date, which, with an acknowledged deficit for the past year of $25,670,358, brings up the final total to $634,996,891. Without going into a considerable mass of details as to all the factors entering into the results for the current year, and which I have gone over with care, the deficit is placed at $39,000,000 in round figures. If evidence were required to make my estimate good, it is found in the fact that, since that estimate was made, the Minister of Railways has announced to Parliament an actual deficit on the Canadian Northern for the past year of $40,414,563.28; so that I am nearly a million and a half under the mark.

The case of the Grand Trunk demands special treatment. It is rather complicated. In 1919 it had bonds outstanding to the amount of $183,854,623, as well as $155,480,169 of consolidated debenture stock and $63,884,928 of guaranteed stock. The consolidated debenture stock must be regarded as a capital liability; so that capitalization for the purposes of this analysis is placed at $339,334,792. Within the past two years, however, including appropriations now being asked of Parliament by the Minister of Railways, advances have been made totaling $124,687,633. This is most astounding. It has simply staggered the people of Canada. The Grand Trunk was taken over on the assumption that it would strengthen the Canadian National group, and yet it has taken this colossal sum to carry it since the end of 1919. The immediate effect has been to raise capital liability to $464,022,425. Interest charges on this sum, as well as on a floating liability which consumed $1,875,437 in 1919, joined to a variety of other debits of an unescapable nature, create fixed charges of $25,346,877. These will be reduced by possibly $5,000,000 of net operating earnings, although that is not certain. Instead of helping out the government railway system on the financial side, it now transpires that the net result of the Grand Trunk purchase will be a direct draft upon the treasury of $12,000,000 for the current year. This adverse situation will be distinctly worsened when the purchase price of probably $65,000,000—the limit fixed by statute—has been paid.

The Grand Trunk Pacific and Grand Trunk Pacific Branch Lines may conveniently be bracketed, although they are separate organizations. Direct capital liability of all classes amounts to $191,570,540, to which must be added $96,224,651 of advances by government during the past three years, making the total $287,795,191. It must be understood that this does not include stocks. In all these calculations they are omitted as being free from permanent

charges against revenue. Again avoiding all details for the sake of brevity, the fixed charges are placed at $9,754,498. Those are the official figures for 1919. When an operating loss of not less than $5,000,000 is added, it will be seen that the public burden on account of these two units will exceed $15,000,000. As a matter of fact, the Minister has placed the deficit at $19,467,290.17, which will show how careful I have been to keep well on the inside of the truth.

From time to time during the past ten years the government has purchased branch lines in the Maritime Provinces on terms which are not immediately available and could not easily be put into definite form if they were. These purchases cover 366 miles of line all told, and fault will not be found with my estimate of the capital liability attaching thereto if I place it at $10,000,000. It might be $15,000,000. Charging merely a nominal 4 per cent, and nothing more, fixed charges are placed at $400,000 per annum.

The government has also purchased a new line in the Province of Quebec, which is not quite completed—the Quebec & Saguenay. It will be thrown into the general group, and has thus far cost $8,146,189. Interest charges of $407,310 would attach.

The Quebec bridge is an essential part of the Canada National system, although appearing separately in the accounts. It had cost $22,616,018, without interest charges, during its somewhat long and tragic history, and I am assigning nominal fixed charges of $1,130,801.

Lastly, there remains the cost of the Canadian Northern common stock, for which the government paid $25,000,000 in 1915 and $10,000,000 more in 1918. The interest charges are placed at $2,100,000.

To remove all suspicion of possible exaggeration in the foregoing analysis, the Hudson Bay Railway is entirely left out of the calculation. It could quite properly be brought in; but it has no direct association with the Canadian National. Nevertheless, it is being built by the government—although practically abandoned since 1917—and has cost $25,000,000 in round figures. The interest on that considerable sum would allow for any adjustments which adverse criticism might suggest.

Government's Railway Investment Is $2,284,000,000

It is now necessary to bring all these accounts together. The summing up is as follows:

	Capital liability	Fixed charges
I. C. R. & P. E. I.	$563,218,701	$21,662,258
Canadian Northern	634,326,533	33,000,000
Transcontinental	250,000,000	12,500,000
G. T. Pacific	279,006,751	8,524,424
G. T. P. branch lines	17,788,440	1,230,074
Grand Trunk	464,022,425	25,346,877
I. C. R. branches	10,000,000	400,000
Quebec & Saguenay	8,146,189	407,310
C. N. R. stock	35,000,000	2,100,000
Quebec Bridge	22,616,018	1,130,801
Total	$2,284,125,057	$106,301,744
Net operating deficit		16,250,000
Total deficit		$122,551,744

The Minister had announced an operating deficit of $21,-250,000 for 1919 without including the Grand Trunk. It is here assumed that the result for the current year will be no worse, although there are ample grounds for an estimate of at least $10,000,000 greater. It will be that much more if the experience of American roads is duplicated on this side of the line, and I have never known it to vary in any considerable degree. For the Grand Trunk an allowance of $5,-000,000 is made on account of net operating earnings. To keep entirely on the safe side, and swerve as far away as possible from the reproach of exaggeration, interest has not been charged on the total deficit for the past year, which of course must be taken care of in capital account. That would add another $7,000,000; so that, in putting down a deficit of $122,551,744 for the current year, which omits a number of odds and ends the aggregate of which would be material, I have tried to keep well within the mark. If my estimate of fixed charges is sound, and the amount thus established is added to the operating deficit of $36,842,970 for last year as announced by the Minister, the deficit for the current year will exceed $136,000,000, after allowing a deduction of $5,000,000 for net earnings by the Grand Trunk.

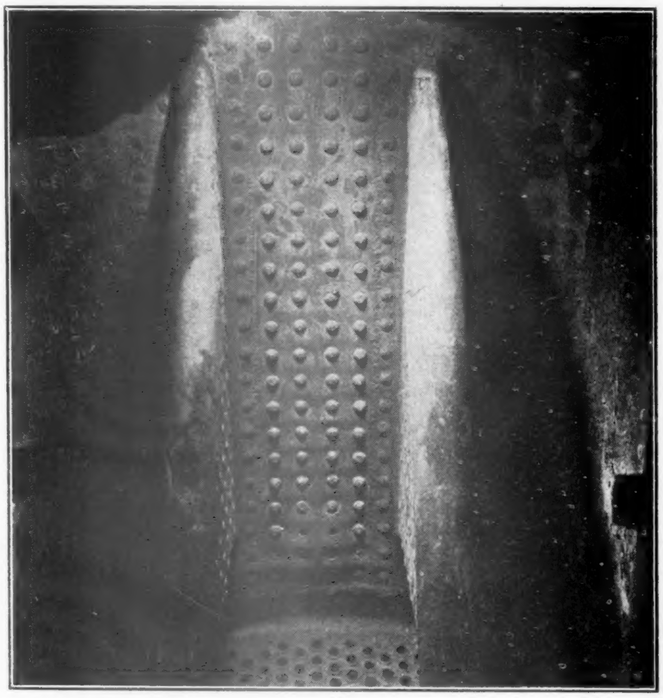
Concluding observations must be left for another article to follow.

A Crown Sheet Failure Without an Explosion

The serious consequences which generally follow the initial failure of an exposed locomotive crown sheet when the boiler is under working pressure make noteworthy any case in which such a failure, caused by low water, remains within sufficiently narrow local limits to result in no more than an engine failure.

Such a case, of special interest because of the fact that the firebox was equipped with the Nicholson Thermic Siphon, occurred January 19, 1921.

At the time of the failure the locomotive, which is of the Consolidation type, was pulling a heavy freight train with a strong draft on the fire, to which the crown sheet was exposed with a water level afterwards determined to have been



Interior View of the Firebox Showing the Most Affected Area of the Crown Sheet

between five inches and eight inches below the highest point of the sheet. The location of the failure and the affected portion of the crown sheet are shown in the sketch and photograph. It will be seen that an area about 10 in. square just back of the first two transverse rows of stays became sufficiently overheated to be pushed off of the heads of the two center stays in the next two transverse rows, and pocketed to a maximum depth of about 1¼ in. The stays nearest adjoining this area in the second, third, fourth and fifth transverse rows from the front of the crown sheet all were partially pulled out of the sheet. With this condition existing the train was pulled into a siding before the locomotive failed

completely, due to the blow-down through the crown stay holes in the pocketed portion of the sheet.

After shopping the engine, a careful examination of the firebox disclosed the following facts: (1) That the water level at the time of the accident was below the highest point of the crown sheet, a distance variously estimated at from five to eight inches; (2) that from the pocket in the sheet back to within 10 in. of the door sheet the crown sheet was buckled from 1/8 in. to 3/8 in. between the two center rows of radial stays; (3) that the two center rows of radial stays were loosened in the sheet; (4) that with these two exceptions there was no evidence of overheating the sheets between or outside of the siphons, and (5) that between the flue sheet and the front of the siphons evidences of over-

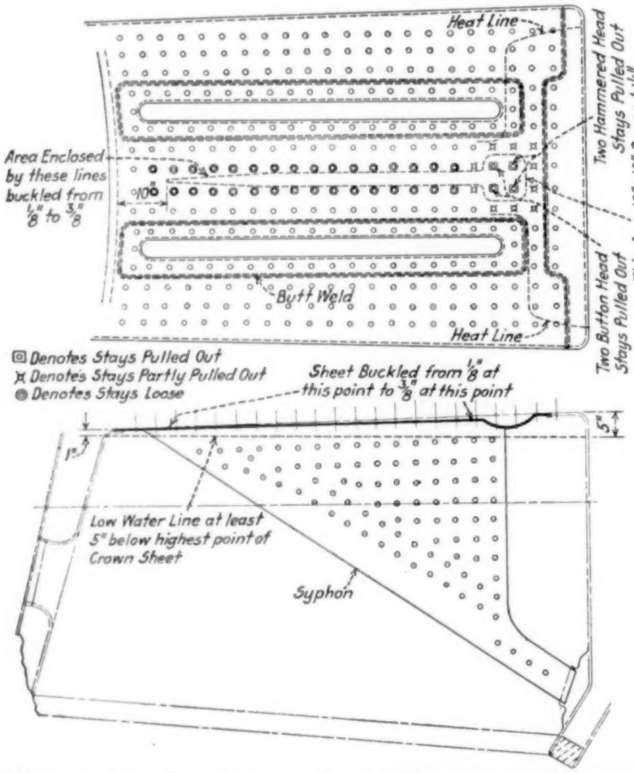


Diagram Showing Extent of the Damage to the Crown Sheet of Engine 1929

heating were clear on an area extending down about eight longitudinal rows of stays on either side of the center line.

In observing this case from the standpoint of the relation of the Nicholson Thermic Siphon to the extent to which the crown sheet was damaged, it should be pointed out that in other cases similar or even more extended areas of the crown sheets have pulled off the stays in boilers not equipped with the siphons without a complete failure of the sheets. Two of the principal factors determining the extent of the damage in such cases are the strength of the staying and the temperature and rate at which heat is being generated in the firebox at the time of the failure. In the case of the locomotive under consideration, one of these factors was favorable to the rapid extension of the affected crown sheet area, inasmuch as the temperature of the firebox and the rate of heat generation were high at the time of the initial failure. The reports of a number of boiler inspectors who examined the firebox after the accident agree in the opinion that water was delivered from the siphon over a considerable area of the crown sheet after it was exposed above the level of the water in the boiler. While the absence of this action might not have resulted in a complete failure of the crown sheet, its presence undoubtedly tended to limit the damaged area.

Electrification of South African Railways*

The South African Government Railways are about to begin the electrification of two sections of the system, and tenders are now being invited for power house equipment and rolling stock. The lines to be electrified immediately are the Cape Town-Simonstown suburban line, 22 miles long, and the Durban-Pietermaritzburg section of the Natal main line, 70 miles long.

The Simonstown line is partly double and partly single track. It carries a large and rapidly growing passenger traffic. Exclusive of season and "trip-bearer" ticket holders, the number of passengers carried rose from 2,701,105 in 1911 to 5,080,284 in 1919-1920. In the latter year 151,520 season tickets were issued, the increase over 1914 being more than 60,000. Electrification of this branch has been decided upon entirely on account of the heavy passenger traffic, and the undertaking presents no features of special interest. Multiple unit trains will be used.

The Durban-Pietermaritzburg section of the Natal main line differs completely from the Simonstown line. The Natal railway has always afforded plenty of scope for the ingenuity of the engineer. As originally located, it included a large number of grades as steep at 3.3 per cent and curves of 20 deg. radius were equally numerous. The line crosses a succession of spurs of the Drakensberg range, divided by deeply cut river valleys, so that it resembles a switchback on an enormous scale. In the distance of rather over 70 miles from Durban to Pietermaritzburg, a summit of 3,000 ft. is reached near Thornville Junction, and the line then descends to about 2,250 ft. at Pietermaritzburg, where it again starts to climb steeply with occasional intermediate descents, to over 5,000 ft. near Highlands. It then falls 1,500 ft. as it crosses the Tugela Valley, and then mounts to about 5,500 ft., at which altitude it crosses the Drakensberg and enters the Transvaal. An up train ascends about 12,000 ft. in the 300 miles between the coast and the Transvaal border.

It may be readily imagined that under these conditions there has been a serious limitation on trainloads and speeds, while operating costs have been very high. About the time of the South African War, a Decapod side-tank locomotive, with only the six center driving wheels flanged, was introduced with the object of increasing the load hauled by a single engine unit. Though locomotives of this type possessed high tractive power, they did an extraordinary amount of damage to the track, in spite of the fact that 80 lb. rails seated on heavy iron chairs were in use. The cast iron chairs were broken by scores on each trip, and it was found necessary eventually to convert these engines to eight-coupled. Only about a dozen are still in use in their original, unchanged form.

The Traffic Club of Wichita Falls, Tex., has been organized and the following officers have been elected: President, A. A. Spencer, traffic manager, the Lone Star Refining Company; first vice-president, C. D. Arnold, traffic manager, the Wichita Motors Company; second vice-president, H. G. Smith, district freight and passenger agent, the Missouri, Kansas & Texas; third vice-president, C. L. Fontaine, assistant manager and traffic manager, the Wichita Falls & Southern; secretary-treasurer, J. W. Chatham, Jr. Members of the board of directors are: C. D. Arnold, G. L. Berry, W. S. Brown, J. W. Chatham, Jr., C. L. Fontaine, E. S. Goodner, F. W. Grace, O. E. Maer, H. G. Smith and A. A. Spencer. The last Friday of every month was selected as the regular meeting date for the organization.

*London Times Engineering Supplement, March, 1921.

Final Valuations Served on Four Railroads

Commission Adds Estimate of Cost of Acquisition of Land Valuations Previously Served Recalled for Addition of This Item

Washington, D. C.

The Interstate Commerce Commission on April 4 made public supplemental tentative valuations including the original and present cost of condemnation and damages, or of purchase of lands in excess of original cost or present value, and also a figure representing the final value of the properties of the Kansas City Southern, the Los Angeles & Salt Lake, the Atlanta, Birmingham & Atlantic, and the Winston-Salem Southbound railroads with their subsidiaries, together with a statement of the methods pursued in developing the so-called "excess cost" of lands. The valuations heretofore have been incomplete because the commission originally held it was unable to report the excess cost of lands, but since the decision of the Supreme Court in the Kansas City Southern case last spring, it has been engaged in investigations for the purpose of developing the proper amounts to be allowed for this item.

The 55 tentative valuations heretofore served by the commission have been withdrawn and amounts will be added for the cost of acquisition of carrier lands and for the value of the property, after which they will be again served upon the carriers as tentative valuations. Three hundred and one preliminary engineering, 229 land and 163 accounting reports have been tendered to the carriers for examination.

In the case of the supplemental tentative valuations interested parties are given 30 days from April 5 in which to file protests. In the case of the Kansas City Southern the commission by Division No. 1 reports the present costs of condemnation and damages, or of purchase of lands owned and used, and used but not owned, for common carrier purposes in excess of the present value of such lands, to be $3,467,182 for lands used and $2,735,490 for lands owned. The valuation is as of June 30, 1914. The following is an abstract of the order in the Kansas City Southern case and the same form is followed in the other cases:

It is ordered, That the following be, and it is hereby declared to be, a supplemental tentative valuation, covering only matters not covered heretofore by either the tentative valuation or the final valuation by the Commission of the properties of the Kansas City Southern Railway Company; the Maywood & Sugar Creek Railway Company; the Poteau Valley Railroad Company; the Arkansas Western Railway Company; Fort Smith & Van Buren Railway Company; Texarkana & Fort Smith Railway Company; Kansas City, Shreveport & Gulf Railway Company; the Kansas City, Shreveport & Gulf Terminal Company; and Port Arthur Canal & Dock Company, as of June 30, 1914:

Original and present cost of condemnation and damages or of purchase of lands in excess of such original cost or present value. The present costs of condemnation and damages or of purchase of lands, owned and used, and used but not owned, by the above named carriers for common-carrier purposes, in excess of the present value of such lands, are found to be as follows:

The Kansas City Southern Railway Company.	
In Kansas:	
Wholly owned and used	$350,266
Exclusively used but owned or leased by other common carriers	7,248
Total	$357,514
In Missouri:	
Wholly owned and used	$1,994,405
Exclusively used but owned or leased by other common carriers	11,924
Total	$2,006,329
In Arkansas:	
Wholly owned and used	$198,297
Exclusively used but owned or leased by other common carriers	172,587
Total	$370,884
In Oklahoma:	
Wholly owned and used	$192,522
In Louisiana:	
Exclusively used but owned or leased by other common carriers	$539,933
Total used	$3,467,182
Total owned	$2,735,490
The Maywood & Sugar Creek Railway Company.	
Wholly owned but exclusively used by the Kansas City Southern Railway Company, in Missouri	$9,768
Fort Smith & Van Buren Railway Company.	
Wholly owned but exclusively used by the Kansas City Southern Railway Company, in Arkansas	$11,570
Texarkana & Fort Smith Railway Company.	
In Arkansas:	
Wholly owned but exclusively used by the Kansas City Southern Railway Company	$161,017
In Texas:	
Wholly owned and used	$579,315
Exclusively used but owned or leased by other common carriers	8,172
Total	$587,487
Total used	$587,487
Total owned	$740,332
Kansas City, Shreveport & Gulf Railway Company.	
Wholly owned but exclusively used by the Kansas City Southern Railway Company, in Louisiana	$539,933
The Poteau Valley Railroad Company.	
Wholly owned and used, in Oklahoma	$1,686
The Arkansas Western Railway Company.	
In Oklahoma:	
Wholly owned and used	$2,882
In Arkansas:	
Wholly owned and used	14,478
Total owned and used	$17,360
The Kansas City, Shreveport & Gulf Terminal Company.	
Wholly owned and used, in Louisiana	$26,266
Port Arthur Canal & Dock Company.	
In Texas:	
Wholly owned and used	$271,989
Wholly owned but used exclusively by the Texarkana & Fort Smith Railway Company	$8,172
Total used	$271,989
Total owned	$280,161

The original costs shown as expended by the above named carriers in the acquisition of all their lands, owned and used and used but not owned, dedicated to common-carrier purposes, include damages to property not taken, the amounts of which cannot be segregated from the costs of the lands taken. We are therefore unable to give the excess costs of acquiring the said lands, over the original costs of the same. Incidental expenses, such as court costs, recording fees, salaries of real estate agents, etc., are shown in a gross sum of $272,537, which cannot be assigned in whole or in part to any particular state or states through which the lines are operated.

Statement of methods employed.—For the purposes of this proceeding, the reference to Appendix 3 of the report in *Texas Midland Railroad,* 1 Val. Rep., 1, 108, which by reference was made part of the final valuation herein, is amended by rescinding the following portions of said Appendix 3, viz.:

All that is contained on page 168, except the first five lines; and all of pages 169, 170, 171 and the first seventeen lines on page 172.

The following portions of the report and order herein, 1 Val. Rep., 223-442, are rescinded, viz.:

Paragraph numbered 12 on page 224, in so far as it relates to the original and present cost of condemnation and damages or of purchase of lands in excess of such original cost or present value; the paragraph entitled "present cost of condemnation and damages or of purchase in excess of present value" on page 249; the subject matter under the heading "present cost of condemnation and damages or of purchase in excess of present value" on pages 260, 261 and 262; and the subject matter under the headings "present cost of condemnation and damages or of purchase of land" on pages 287, 291, 294, 299, 303, 307, 312, 316 and 320.

The matter contained in Appendix A, attached to this order,

being a statement of methods pursued in developing excess cost of lands, is substituted for the language contained on pages 168, 169, 170, 171 and 172 of the decision of the Commission in *Texas Midland Railroad,* being the analysis of methods under which the valuation work is conducted, above rescinded.

Final value.—After careful consideration of all the facts submitted in this proceeding, and the cost valuations heretofore made, including the excess cost of the carrier lands, appreciation, depreciation, going-concern value, working capital and materials and supplies, and all other matters which appear to have a bearing upon the values here reported, the values, as that term is used in the Interstate Commerce Act, of the properties of the above named carriers owned and used and used but not owned, devoted by the carrier to common-carrier purposes, are found to be as follows:

THE KANSAS CITY SOUTHERN RAILWAY COMPANY

Wholly owned and used	$29,977,055
Wholly owned but not used:	
Leased to the Missouri & Louisiana Railway Company	40,000
Used but not owned:	
Leased from:	
The Kansas City, Shreveport & Gulf Railway Company	$8,725,737
Texarkana & Fort Smith Railway Company in Arkansas	4,284,500
The Maywood & Sugar Creek Railway Company	34,000
Fort Smith & Van Buren Railway Company	47,000
Hannibal & St. Joseph Railway Company (merged with Chicago, Burlington & Quincy Railroad Company in 1901)	7,106
Kansas City Terminal Railway Company	612
The Missouri Pacific Railway Company	980
Private parties	60,512
Total	$13,160,447
Total owned	$30,017,055
Total used	$43,137,502

TEXARKANA & FORT SMITH RAILWAY COMPANY

Owned and used	$3,792,691
Used but not owned	
Leased from:	
Port Arthur Canal & Dock Company	$258,761
Private parties	310
Total	$259,071
Total used	$4,051,762
Owned but not used:	
Leased to:	
The Kansas City Southern Railway Company	$4,284,500
Total owned	$8,077,191

KANSAS CITY, SHREVEPORT & GULF RAILWAY COMPANY

Owned but not used:	
Leased to:	
The Kansas City Southern Railway Company	$8,725,447
Leased from private parties and re-leased to Kansas City Southern Railway Company	290
Total leased to the Kansas City Southern Railway Company	$8,725,737

THE MAYWOOD & SUGAR CREEK RAILWAY COMPANY

Owned but not used:	
Leased to the Kansas City Southern Railway Company	$34,000

FORT SMITH & VAN BUREN RAILWAY COMPANY

Owned but not used:	
Leased to the Kansas City Southern Railway Company	$47,000

THE POTEAU VALLEY RAILROAD COMPANY

Owned and used	$94,068

THE ARKANSAS WESTERN RAILWAY COMPANY

Owned and used	$343,228

THE KANSAS CITY, SHREVEPORT & GULF TERMINAL COMPANY

Owned and used	$150,799

PORT ARTHUR CANAL & DOCK COMPANY

Owned and used	$1,668,548
Owned but not used:	
Leased to Texarkana & Fort Smith Railway Company	$258,761
Total owned	$1,927,309

The following amounts have been included in the values above stated for properties used by operating companies, on account of working capital and materials and supplies:

The Kansas City Southern Railway Company	$1,215,430
Texarkana & Fort Smith Railway Company, in Texas	109,066
The Arkansas Western Railway Company	3,228
The Poteau Valley Railroad Company	2,068
The Kansas City, Shreveport & Gulf Terminal Company	5,799
Port Arthur Canal & Dock Company	18,548

No working capital and materials and supplies are found to be owned and used by non-operating companies, as follows:

Kansas City, Shreveport & Gulf Railway Company.
Texarkana & Fort Smith Railway Company in Arkansas.
The Maywood & Sugar Creek Railway Company.
Fort Smith & Van Buren Railway Company.

Appendix A

Statement of Methods Pursued in Developing Excess Cost of Lands

In meeting the requirement of paragraph entitled Second of Section 19 (a) of the Interstate Commerce Act to report the present cost of condemnation and damages or of purchase in excess of present value we attempt to show what the expense to a carrier would be of acquiring its common-carrier lands upon the date of valuation, on the assumption that it did not possess those lands, but was obliged to obtain them through purchase or condemnation at the value of similar lands in the vicinity, on that date.

It is evident that the figure reported can be only an estimate since the amount which would actually be paid would depend to a considerable extent upon circumstances and conditions which can not be definitely described. If a community is eager for the construction of a railroad the right of way can be obtained at a much lower figure than as though the building of the road is opposed by that community. So too the attitude of the carrier might exercise a considerable influence upon the amount of money expended in the acquisition of its lands. It is also apparent that if the railroad did not exist the present value of lands adjoining and adjacent to the railroad would not exist. The management of one railroad might deem it for its advantage to pay liberally, thus cultivating the good graces of the community, while another might deem it better business to force many cases into court thereby obtaining a better price where purchases were made. In our estimate no allowance whatever is made for anything of this character. We necessarily assume average conditions of all kinds, and we further assume that all lands are paid for.

One method by which this excess cost of acquisition might be shown would be to take each individual parcel and attempt to estimate how much the carrier would be compelled to pay the land owner by way of severance damages or in addition to the acreage value of the land. This would involve an examination of each parcel and a consideration of the various elements affecting these damages. In many cases testimony would be introduced. It would in effect be a proceeding in condemnation to determine what the carrier should pay. Manifestly this method can not as a practical matter be resorted to. It would require years of time and millions of dollars in expenditure to bring the work to a completion in that way.

So far as possible our prices have been determined with reference to actual transactions. The unit prices which we apply to our inventory in showing cost of reproduction are developed from a great number of actual prices paid by the carriers for the same class of work and material. In fixing the present value of lands more attention is paid to actual sales than to any other one factor. So it was felt here that if possible some method should be developed which would be based upon actual transactions.

The severance damages paid by a carrier to the land owner in one individual case would not be a reliable guide as to what would be paid or should be paid in all other cases of a similar character; but the thing aimed at is the same, in every similar case the rules of law applicable are identical and while human inclination or human judgment may go astray in individual instances still taken as a whole what has actually happened in the payment of these damages is the best guide we can obtain. While a single instance is not reliable if it is possible to find a great many instances and put those instances together in the form of an average that average will express the fact more accurately than any sort of an estimate. This is the general theory upon which this work has been developed.

First the lands of the carrier are divided into classes known as types. There is one type for city property of a certain kind, a second for city property of another kind, a third for farming land, a fourth type for wood land, etc., etc. The type may depend upon the shape of the parcel and the manner in which it is crossed by the road of the carrier.

Having determined these types we proceed to find actual cases corresponding to each type. These instances are obtained for the most part from carriers other than the one under consideration. We know with respect to each one of these actual transactions what amount paid by the carrier to the land owner was. We ordinarily know the present value which is the value which we ourselves determine and report. In some instances where the transaction is somewhat remote and where there is reason to suppose that the present value may have varied between the date of the transaction and the determination of our present value a present value as of the date of transaction is ascertained by the same methods as in our ordinary land work. This, however, is very unusual since our instances are taken from transactions occurring not to exceed ten years from the date of valuation.

Having selected these transactions which fit a particular type we carefully examine each one of them for the purpose of de-

termining whether it is apparently in all respects normal. If it appears to be abnormal it is rejected.

It will be noted that in case of each transaction we know the present value and also the amount actually paid by the carrier to the land owner. By subtracting the present value from the total amount paid the land owner we find the excess cost in each case and proceed to determine the ratio between such excess cost and present value. The result is known as the multiple of that individual case. All the multiples of a given kind are now combined into a weighted average and this average is treated as the multiple of that type. The multiple so determined is compared with multiples in other parts of the country.

When multiples have been determined for all the types into which the land of a given carrier falls the process of determining the excess cost consists of combining all parcels of a certain type, determining present value of those parcels in the aggregate and applying to that present value the multiple determined. When this has been done as to all the types it affords the basis for the estimate now made of the total amount of excess cost.

It frequently happens that a carrier is credited in our land report with the amount actually paid by it in securing the right to use a public street or some portion of the public domain. No multiple would be applied to the sum so stated since the carrier is allowed only the amount actually expended and we assume that the price charged by the municipality if this right is to be re-acquired would be the same that it originally was.

It is also evident that there would be certain expenses connected with the acquisition of these lands aside from the amount of money paid to the land owner and these are designated in our report as incidental expenses. They are made up of the fees and expenses of attorneys, right of way agents, etc., etc., together with cost of recording deeds, making maps and such like. The amount is small in comparison with the total cost. In determining the incidental expenses upon a particular carrier the expenses of a similar character upon that same carrier actualy incurred when the road was constructed are examined if known. Similar expenses upon other roads are also examined and from all this an estimate is made of what the expenses would be upon the road under consideration. So far it has not been deemed proper to compile a percentage for the purpose of determining those expenses since they would vary upon different carriers according to the character of the right of way, the number of parcels and many other incidents.

If now we combine the excess cost paid to the land owner as hereinbefore stated and the incidental expenses incurred by the carrier in the acquiring of its lands we shall have the total excess cost. This figure is shown in our report as the excess cost of acquisition. In the column immediately following this is shown the per cent which the excess cost of acquisition bears to present value.

It is evident that this would show the excess cost to the carrier of acquiring its lands but the carrier insists that the figure shown by us should contain something beyond this. It is well known that one of the first expenses in the actual construction of a railroad is for its right of way lands and these lands develop no earning power and therefore yield no return on the investment until the road is finished and finally opened for operation. The carriers therefore insist that they should be allowed interest on their expenditure for lands from the time it is made until the money begins to earn from operation. However, this has been compensated for by basing the estimate on present value of land, rather than the value as of the time the lands would be acquired under the hypothetical reproduction theory. Further, while many of these lands would be purchased before construction actually begins others would not be, and many parcels would not be paid for until construction had ended.

The carrier would also pay certain taxes which would vary from nothing at all in some states where lines under construction are specifically exempted from taxation or where the gross receipts from operation are taxed, to other states where quite a substantial sum might be exacted if the period of construction were considerable. The taxes assessed, in practice, are levied upon lands, and for the same reasons that interest on the cost of acquisition of lands during the construction period is not consonant with the estimate here made, none is made for taxes during the construction period in this connection.

Other Valuations

In the case of the Atlanta, Birmingham & Atlantic the commission finds $1,818,730 as the excess cost of lands used and $1,188,330 of the lands owned; of the lands owned by the Georgia Terminal Company $257,255 and of the lands owned by the Alabama Terminal Railroad $386,080. The final value for the properties owned by the Atlanta, Birmingham & Atlantic is placed at $21,698,250, and of the properties used $25,630,000. The value of the properties owned by the Georgia Terminal Railroad is placed at $2,000,000 and the Alabama Terminal Railroad at $2,850,000. There is included in the valuation stated for the Atlanta, Birmingham & Atlantic, $617,090 representing working capital and materials and supplies. No working capital and materials and supplies were found to be owned and used by the Georgia Terminal and Alabama Terminal companies.

In the case of the Los Angeles & Salt Lake, the commission has added $2,504,529 as the excess cost of land and states the final value as of June 30, 1914, as $45,871,093, including $38,774.78 as the value of certain lands used by the carrier for common carrier purposes, but owned by parties other than a common carrier. There is also included $2,221,093 for working capital and materials and supplies.

For the Winston-Salem Southbound the commission adds $468,022 for the excess cost of lands and states the final value as of June 30, 1915, as $5,850,000, including $101,535 for working capital and materials and supplies.

Kansas City Southern Objects to Valuation Figures

The Kansas City Southern has issued a statement containing objections to the tentative valuation set by the commission's Division No. 1. The statement says:

The Kansas City Southern Railway Company does not, by any means, concede the corrections of the tentative valuation of its properties made by the three commissioners composing Division No. 1 of the Interstate Commerce Commission. It is apparently based on an incomplete estimate of the cost of reproduction of physical properties, less depreciation, with the addition of certain arbitrary but inadequate allowances for appreciation and going-concern value. As its name indicates, it is only tentative; it is a figure put forward by Division No. 1 against which the railway company is entitled to file its protest, and to make proof of the real value of its properties The figures do not even purport to have any relation to present-day value. They represent only tentative figures as of June 30, 1914. It may be stated, in passing, that since that date the Company has expended over $6,500,000 in additions, betterments and extensions.

The company has claimed, and still claims that the value of its properties, even as of June 30, 1914, was in excess of $75,000,000. It introduced evidence to that effect before the Commission. It is not disposed to accept any lower valuation, and it is prepared, if necessary, to contest its rights in the courts.

In the tentative valuation, the earning power of the company, on a proper rate structure, which we contend is the real test of value, has been ignored. As an illustration, the company, for the calendar year 1917, under a rate structure claimed to be inadequate, earned approximately six per cent on $75,000,000. That fact is given no consideration.

The stock and bond value of the company's properties has likewise apparently been ignored. During the five-year period preceding June 30, 1914, the prices of stocks and bonds, as every one knows, were unduly low, but the aggregate market value of the company's outstanding stocks and bonds, computed at the average prices during the five-year period, amounted to over $62,000,000.

The original cost of the property is stated in the tentative valuation at $47,000,000, which is approximately $16,000,000 less than the company claims it should be. The cost of reproduction new of the company's properties, as of June 30, 1914, is stated at approximately $52,000,000, which the company claims is approximately $20,000,000 less than it should be. There has been deducted approximately $10,000,000 for depreciation, although it is held by the courts that no depreciation should be deducted in determining value, where there is no deferred maintenance, and it is not asserted that there is any deferred maintenance in our case. The commission took into consideration its estimate of the cost of reproduction of the roadbed, bridges, buildings and other physical structures, but apparently omitted to give the same consideration to the cost of reproducing the right of way. The amount allowed for right of way is nearly $5,000,000 less than the commission's own estimate, made after the decision of the Supreme Court in our mandamus case, of what its cost of reproduction or re-acquisition would have been. The company's interest in the Kansas City Terminal, amounting to approximately $4,000,000, was ignored. The cost of reproducing the company's property, applying to the commission's quantities the prices current today, would materially exceed $100,000,000.

Stockholders and others interested in the Kansas City Southern Railway Company will readily understand from the foregoing

statement why the officers of the company are prepared to contest this tentative valuation.

The final valuation issued by the Interstate Commerce Commission in the cases of the Kansas City Southern; San Pedro, Los Angeles & Salt Lake; Atlanta, Birmingham & Atlantic and the Winston-Salem Southbound railways indicate that a deduction has been made for depreciation because in each instance the value found is less than the figure previously reported in the case of these roads for cost of reproduction new plus the present value of lands. For the first three of the roads there is a wide variation between the final valuation and the company's book investment account or its capitalization, but in the case of the Winston-Salem the valuation exceeds the capitalization or the book cost.

In the Kansas City Southern case the commission had reported the cost of reproduction new plus land as $51,262,747, and the final value is given as $43,137,502. The capitalization of the Kansas City Southern as of the valuation date, 1914, was $99,052,000 and the company claimed as its investment in road and equipment $101,050,970. The commission in 1919 agreed with the company upon a figure for the investment in the property of $45,742,093. The valuation covers 879 miles of road.

In the case of the San Pedro, Los Angeles & Salt Lake, the commission reported the cost of reproduction new plus land as $47,226,043. The final value is stated as $45,871,093. The investment in road and equipment claimed by the company was $76,391,598. The capitalization in 1914 was $81,274,000. The mileage was 999.

The commission reported for the Atlanta, Birmingham & Atlantic a cost new plus land of $27,471,817, whereas it states the final value as $25,630,000. The book cost of road and equipment was $39,255,787. The capitalization was $59,565,176 and the mileage was 663.

For the Winston-Salem Southbound the cost of reproduction new plus land was reported as $5,939,099 and the original cost as $5,598,999. The final value is stated as $5,850,000 for 90 miles. The company's investment account was $5,598,558, and the capitalization $5,125,000.

President Studying Railroad Problem

WASHINGTON, D. C.

PRESIDENT HARDING and members of his cabinet are still earnestly studying the railroad problem, trying to find a way by which transportation costs may be reduced and by which bankruptcy for the railroads can be averted, but have thus far found no plan on which he is ready to act and he does not propose to dictate to or interfere with the functions of either the Interstate Commerce Commission or the Railroad Labor Board. Chairman Clark of the Interstate Commerce Commission is understood to have told the President what he told the Railway Business Association at its annual dinner and what he has previously written to various senators, that there can be no general reduction in rates until the foundation is laid for a reduction in the cost of operation, and Chairman Barton of the Railroad Labor Board has undoubtedly told him that the board cannot act without hearings, and it is not an easy thing to reconcile the conflicting views of its nine members in a short time. No definite plan for meeting the situation resulted from the two-hour conference which the President had with Mr. Clark and Mr. Barton on March 31, and the President has stated that he is going to seek farther for a solution and to obtain information from all sides of the question. Following his conference with the heads of the two organizations having jurisdiction over rates and wages, respectively, it was announced at the White House that the President was merely seeking information and that he did not propose "to go over any one's head."

The subject was again discussed at the cabinet meeting on Friday, April 1, which was largely devoted to the general business problems of the country, including productivity, transportation, agriculture and financial questions, but the President stated in his talk with newspaper correspondents that no plan had been arrived at. Both boards are operating under a law which makes each supreme in its own field and which provides neither for the exercise of any authority over either body by the President nor for co-operative action. It was believed, however, that the President may have urged upon them the importance of expediting any action which may appeal to their judgment as proper and that aside from obtaining information from them he may have desired to emphasize the importance of their working with a common purpose in any way possible.

He had not yet decided upon an answer to the telegram from B. M. Jewell urging the President to call a joint conference of railroad executives and labor leaders and proposed to make some further inquiries before doing so, but he indicated that the entire question of the extension of the National Agreements beyond the period of government operation of the railroads was for the Labor Board to settle and that he did not propose to interfere.

Mr. Jewell's request that the President call the railroad executives and the labor leaders into conference on a matter which the law places within the jurisdiction of the Labor Board raises the whole fundamental question which has been involved in the hearings before the board as to whether the principle of National Agreements, adopted while the employees were working for the national government, should be extended into the period when they are no longer working for the national government but are employees of individual railroad companies. The point is understood to have been made at the cabinet meeting that to re-establish National Agreements would eliminate the right of the employer to negotiate with his employees and also the right of the employees to negotiate with their employers, and it was rather strongly indicated at the White House that the President does not intend to reply to Mr. Jewell's telegram in such a way as to commit himself to any such policy.

While giving no response to the suggestion of a joint conference, which would recognize the principle of a national adjustment, the President, in accordance with his announced policy of seeking information from all sides, on Monday consulted with Mr. Jewell and also A. B. Garretson, former president of the Order of Railway Conductors. W. S. Carter, president of the Brotherhood of Locomotive Firemen and Enginemen, talked with the President on Tuesday, and Warren S. Stone, grand chief of the Brotherhood of Locomotive Engineers, had an appointment for Wednesday.

The railroad situation was again discussed at the cabinet meeting on Tuesday. After hearing the labor side and their suggestions for a solution the President intends to consult with representatives of the managerial side. If he is led to believe that a probability of a solution lies in bringing the representatives of the two sides together that method will be attempted, but he has not yet decided to do so.

By calling in the labor leaders the President has indicated, it is believed, an appreciation of the fact that the chief difficulty in the problem lies in the wage question.

RAILWAY WORKERS of Lemberg, Poland, recently received from the American Relief Administration 50 outfits of clothing for the children of the poorest workers. Out of gratitude the railway men who were in better financial condition collected the sum of 1,350 marks and presented it to the Administration to use as they saw fit. It was used to cover the cost of sewing clothing for orphans in different institutions in Warsaw.

New Civic and Railway Development Plan

Chicago Terminal Commission Submits Extensive Report for Revamping Transportation Facilities

JOHN F. WALLACE, chairman of the Chicago Railway Terminal Commission, has just submitted a comprehensive report to the mayor and city council of Chicago, outlining a complete plan for the rearrangement of the railway terminal facilities located directly south of the "loop" or business center of the city. The plan proposes the vacation of extensive areas now occupied by the railroads with three passenger stations and a large number of freight houses as well as a change in the channel of the Chicago river, the object from the city's standpoint being to permit the opening of four north and south streets to connect the "loop" with the southern part of the city. From the standpoint of the railroads this is considered by the commission the third important step in a general plan for the reconstruction of the railway facilities serving the central part of the city. The first two of these steps have already been carried through the preliminary stages by ordinances establishing agreements between the city and the railroads involved. The first of these is the Union Station project which carries with it the construction of the Chicago Union Station and extensive freight terminal development by railroads west of the Chicago river. The second is the Illinois Central development concerned primarily with the construction of a large passenger station facing on Roosevelt road.

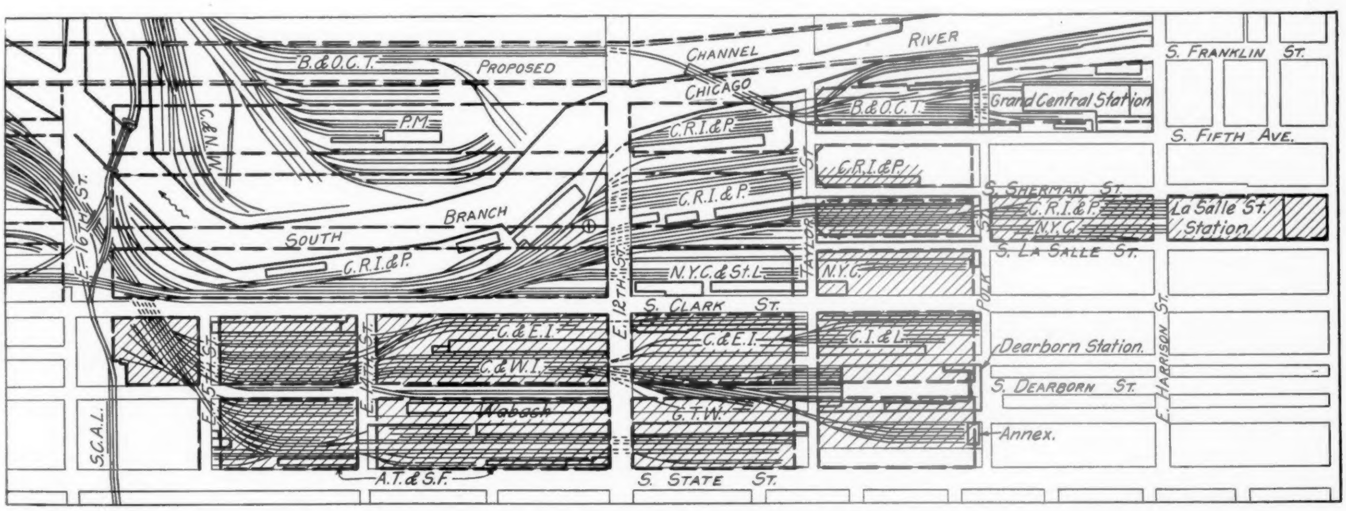
The railroads concerned with this third plan are those using the La Salle, Grand Central and Dearborn passenger stations, namely, the New York Central; the Chicago, Rock Island & Pacific; the Baltimore & Ohio; the Chicago Great Western; the Pere Marquette; the Minneapolis, St. Paul & Sault Ste. Marie; the Wabash; the Grand Trunk; the Chicago & Eastern Illinois; the Monon; the Atchison, Topeka and Santa Fe; the Erie; the Chesapeake & Ohio and the New York, Chicago & St. Louis. This plan is linked up closely with that of the Illinois Central development owing to the fact that the suggestion to eliminate the three passenger stations now used by these roads carries with it the proposal that they co-operate with the Illinois Central in providing a union station on Roosevelt road and the lake front of adequate size to provide for all of them.

The project is estimated to cost $43,000,000 (exclusive of provision for other facilities to replace those abandoned) which would be covered in part at least by the sale of valuable property released as a result of vacations and by the sale of air rights over the proposed terminal development. The project also involves some fine questions of law concerning riparian rights, the title to the old channel of the river, relationship to the various governmental bodies involved and enabling legislation. Plans for this project were developed to the preliminary stages as early as 1914 but like a great many other projects of first magnitude, it was subject to postponement at the beginning of the war.

An abstract of Mr. Wallace's report follows:

"The present network of railroad tracks and facilities within the Chicago terminal district have been created by each railroad acting on its own initiative and for its own interest and usually with little consideration of the interests of other railroads, or of the city. There are no topographical conditions in Chicago or in surrounding country that would serve to concentrate the lines of railroads approaching Chicago within narrow confines and as a result the lines of railroad approach the city from all directions except the side occupied by Lake Michigan. The result has been that there are railroad problems in all sections of the city and these problems increase in intensity as one approaches the center of the city where all of these lines converge and have their terminal facilities.

"This consolidation in entrance routes has resulted in the grouping of railroads in the territory immediately surrounding the business district on the north, west and south sides of the rectangle which includes the central business district. Since all of the railroad developments in each of these several districts referred to are contiguous one to the other it is impossible to apply any specific treatment or development to one railroad property without affecting the railroad property contiguous thereto, and therefore, it becomes a practical necessity for the railroads having their facilities in each of these several groups to work co-operatively on any plans for railroad development. This is particularly true where the



The Present Railway Terminal Layout South of the "Loop," Showing Additional Through Streets Proposed and Suggested Vacation of Railway Property Indicated by Cross-hatching

rearrangement of grades is necessary and it is a fact that no large improvement in the railroad property adjacent to the central business district can be made without changes in grade.

"On the south side of the rectangle enclosing the Loop District are grouped the terminal facilities of 14 railroads and the existence of the large area of railroad property in this district in its present state of development is a serious obstacle to the free flow of traffic to and from the central business district and is retarding the natural expansion of the business district to the south. In the preliminary report of the commission as well as in the reports furnished to the Railway Terminal Committee by Mr. Wallace and by Bion J. Arnold, it was shown that there was available in the property owned by the Illinois Central on the lake front, a station site of sufficient size to accommodate not only the traffic of the present Illinois Central station, but also the traffic at present using the Dearborn, La Salle street and Grand Central stations.

"It would undoubtedly be to the best interests of the city if all of the railroads now having their passenger terminals in the territory between State street and the Chicago river would make the station provided in this ordinance the terminal for their through passenger trains.

"In no location adjacent to the central business district can there be provided coach yards, engine terminals and other necessary facilities as convenient to the passenger terminal and in no other location can these facilities be provided with as small a capital expenditure. The location provided in this ordinance is readily accessible for vehicular traffic from all sections of the city without encountering the congestion in the central business district. Adequate railroad entrance routes are provided convenient for all of the railroads now using the Dearborn, La Salle Street and Grand Central stations to reach the station location provided in the ordinance, and there is an opportunity for the consolidation of entrance routes that would make possible a reduction of passenger train mileage and operating expenses.

"It should therefore be the policy of the city to encourage the removal of the passenger terminals of the railroads now occupying the Dearborn, La Salle Street and Grand Central stations to the Roosevelt Road Lake Front Station."

The report calls attention to the manner in which the property occupied by these railroads serves as an obstruction to free communication between the southern part of the city and the central business district as well as the manner in which it has served to restrict the normal development of the real estate adjoining these railway facilities. It is also suggested that many of these facilities are or will soon become inadequate and that provision for enlargement of the railway facilities in this territory cannot well be made as they are now occupied. With regard to this feature the following conclusions have been reached:

"Any future railroad development in this territory, therefore, should provide for: (1) The withdrawal, at least in part, of railroad penetration into the central business district; (2) a character of development that would permit joint railroad and commercial use of property; (3) the opening of additional street arteries between the 'loop district' and the south side.

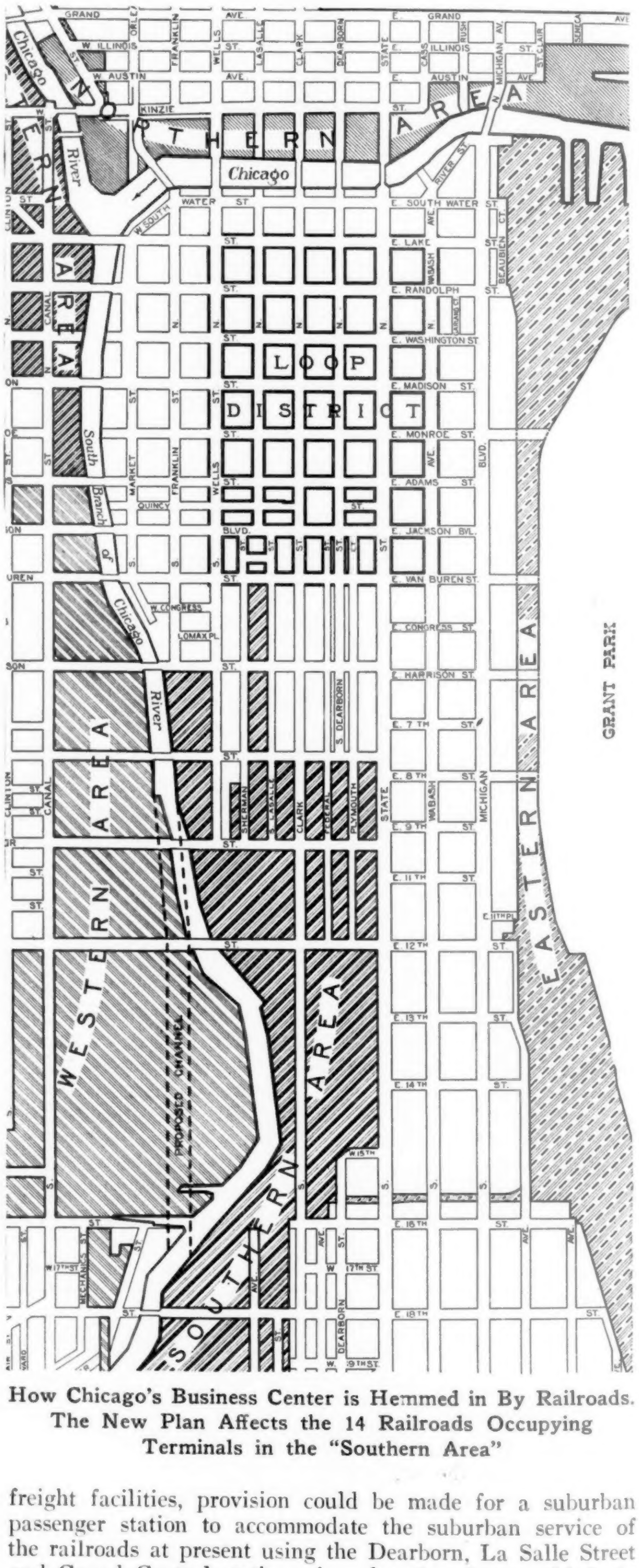
"A study of the map of the territory immediately south of the central business district indicates that it will be extremely difficult to design a large passenger terminal in this district that would fulfill the three requirements given above."

The question of electrification is brought in as follows:

"Judging from past expressions of the city council and the sentiment of the public at large it is evident that no comprehensive railroad development in the territory immediately south of the central business district will be countenanced unless such improvement carries with it operation of trains by motive power that will eliminate smoke and in the present stage of the art this means electrical operation."

Suburban and Freight Facilities Also Taken Into Account

"In connection with the removal of existing passenger stations south of the loop district and the revamping of the



How Chicago's Business Center is Hemmed in By Railroads. The New Plan Affects the 14 Railroads Occupying Terminals in the "Southern Area"

freight facilities, provision could be made for a suburban passenger station to accommodate the suburban service of the railroads at present using the Dearborn, La Salle Street and Grand Central stations, in a location that would fit in

with the proper ultimate treatment of the suburban train problem and at a cost that would not be excessive.

"The objections to the development of a passenger terminal in the territory south of the loop district do not apply to the development of freight facilities. Freight facilities can be developed in a manner that will not interfere with the opening of streets through the district and also in a manner that will permit of the use of the space above that used by the railroads for commercial purposes.

"Linked up, however, with the question of the proper development of this territory, both in the interests of the city and of the railroads, is the question of river straightening. South of Van Buren street the south branch of the Chicago river makes a decided bend to the east, which narrows down the southern approach to the main business section of the city. The river being within 150 ft. of Clark street near Fifteenth street. North of Van Buren street there are nine north and south streets while south of Van Buren street, on account of the bend in the river and the railroad occupation there are only four streets, one of these being a boulevard from which heavy traffic is excluded, and of the remaining three, one has undulating grade, is restricted in width, and is a very unsatisfactory street for use of heavy team traffic."

The report points out that the question of straightening the river was discussed for many years but no definite action was taken until 1914 when provision was made in the Chicago Union Station ordinance, whereby the railroads entering the Union Station and occupying property abutting on the river agreed to co-operate with the city in proceedings for straightening the river. A similar agreement was made between the city and the Baltimore & Ohio Chicago Terminal in an ordinance passed in 1915. This ordinance provides for a change of channel in the river, starting at Polk street, extending a little east of south to Roosevelt road, and thence due south. Under this channel change the distance from Clark street to the straightened river will be about 1,015 ft. All of the river frontage embraced within the change described above is owned by railroad companies. The total frontage on the river channel between the lines of change contemplated amounts to 9,580 ft.

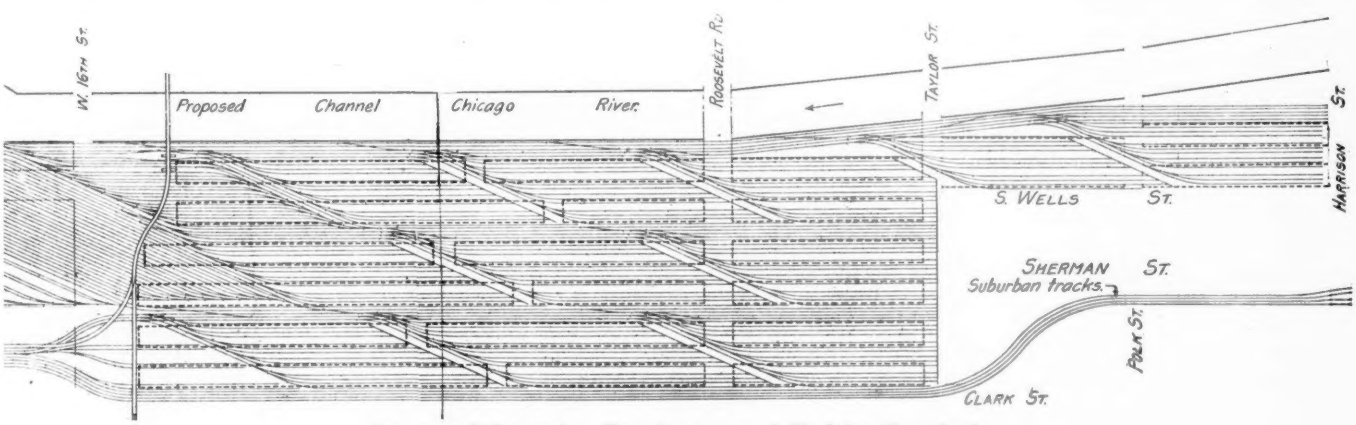
Co-operation Between the Roads Necessary

The report demonstrates that a plan as comprehensive as this, which involves the interests of so many railroads, and involves a complicated exchange of real estate holdings can be worked out satisfactorily only if the railroads come to an agreement among themselves. Efforts to this end had been carried on with some progress until work was discontinued as a result of the war. After pointing to conditions which have served to obstruct action subsequent to the war, it is suggested that the present is a favorable time to undertake all action possible to bring about the straightening of the river and the revamping of the railroad property adjacent thereto.

"The best interest of both the city and of the railroads will be served if the railroads, in co-operation with the city, will work out a plan for the improvement and rearrangement of the railway terminals in connection with river straightening that will give the city the additional streets required and give the railroads the improvements and additional facilities which they require. It may be, however, that in order to bring this about it will be necessary for the city to be in position to serve notice on the railroads that it is proceeding to an active consideration of the river straightening project and its intention, either with or without the co-operation of the railroads to bring about this necessary improvement."

Proposes Vacation of Large Area

"Tentative plans prepared by the commission would indicate that the best results would be obtained if the railroad occupation was confined to the territory bounded on the east by Clark street, south by Taylor street and by Wells street between Harrison and Taylor streets. Under this plan the railroad tracks would be depressed to enable viaducts to be put over them through the territory. Fig. 2 indicates the area which the railroads would vacate (shown by cross hatching), while the additional streets which it is proposed to open through the railroad area are indicated by the heavy dotted line.



Suggested Intensive Development of Freight Terminals

"It will be noticed that this plan provides for three additional streets between Clark street and the river and also provides for the opening up as a continuous thoroughfare of Dearborn street from Polk street south."

Fig. 3 illustrates a suggested development for the freight terminal in the railway area as restricted under the provisions of this plan. This provides for the railway tracks on a lower level and with a street vehicle development on the street level.

"It is possible in a plan such as outlined to give the railroads freight facilities of a car standing capacity of double the existing facilities in this territory and to work this out in a way that would enable the railroads to utilize the air space above their freight facilities for commercial purposes. This tentative plan (Fig. 3) shows the suburban tracks occupying the under level of Clark street south of Taylor street, thence extending through railroad property to a possible suburban station located at Van Buren street at the present site of the La Salle Street station.

"The present freight facilities of the railroads can only be increased in capacity by resorting to a double level development, and a development of this kind on the property at present occupied by the railroads between Clark street and State street would be found to be expensive because such a development would involve the raising of the level of State street with the consequent property damage along the east

side of State street and along each of the streets intersecting State street from the east in which ramps would have to be constructed to connect with the raised level of State street.

"On the other hand, if the river is straightened and the development is confined to the area between Clark street and the river, and does not extend farther north than Taylor street except between Clark street and Wells street, all of the connecting ramps would occur opposite property now owned by the railroads, and there would be available for the development the same area as is now used by the railroads for freight facilities."

The Cost

"The estimated costs of the improvement such as shown on this plan, based on 1920 prices, are as follows:

"Straightening of the Chicago river, including building of permanent dock walls; the moving of the Roosevelt road and the St. Charles Air Line bridges; temporary construction; track alterations, etc. $3,000,000

"Viaducts and ramps for new streets opened through the district including adjustment with the Roosevelt Road viaduct $17,000,000

"Railroad facilities including removal of old structures; excavation; track work; changes to St. Charles Air Line and connections; building freight house; thoroughfare suburban tracks and station................$23,000,000

"To construct a 10-story commercial development over the railroad freight houses would provide about 20,000,000 sq. ft. of rental space and would cost about..$95,000,000

(This feature of the plan would be carried out only as the need for it developed.)

In considering this cost, attention is drawn to the fact that the plan provides for the release by the railroads of 3,000,000 sq. ft. of land which, at an average value of $20 per sq. ft. would represent a total of $60,000,000 which the railroads could reasonably be expected to realize in disposing of this property. In addition to this it would be possible to design the freight house facilities west of Clark street so that the area over the freight houses would be available for commercial purposes and this would give the railroads about 2,500,000 sq. ft. of air rights which they could sell. This at a value of $10 per sq. ft. would represent $25,000,000. This amount subtracted from the $43,000,000 because of the railway and street improvements and river straightening would leave an investment of $20,000,000 which the railroads would have to finance. In commenting on this, the report states:

"Offsetting this net expenditure would be the value of the lands released from railroad occupation which has been conservatively placed at $60,000,000, so that even if the entire cost of river straightening and the constructing of viaducts were borne by the railroads, the full development would still show a credit of $40,000,000."

Payroll for 1920 $3,733,816,186

WASHINGTON, D. C.

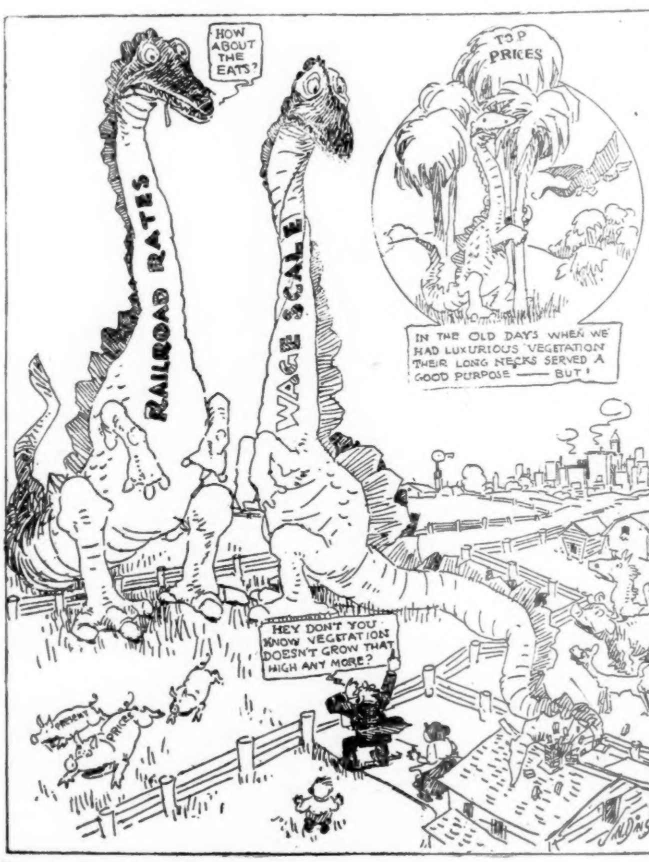
THE RAILROAD PAYROLL for 1920, according to the official statistics just made public by the Interstate Commerce Commission, was $3,733,816,186, to which a small amount is to be added for back pay for May and June, for which the reports are not yet quite complete. This exceeds previous estimates which had placed the total payroll for the year at $3,600,000,000, including eight months of the wage increase, and for a full year at the increased rates of pay awarded by the Railroad Labor Board last July at $3,800,000,000. The commission's report covers only the Class I roads, and its total for the year is made up as follows:

First quarter, old basis	$795,616,330
Second quarter, old basis	801,063,938
May and June back pay	102,419,680
Third quarter, new basis	1,052,109,451
Fourth quarter, new basis	982,606,787
Total, 1920	3,733,816,186

The commission says the carriers were asked to exclude from the reports for the third and fourth quarters of the year the retroactive payments for May and June in order not to distort the comparison of averages. The amounts so excluded appear in foot notes, but the reports are not quite complete, and therefore the total payroll above shown is somewhat below what will appear in the final annual report for 1920.

The number of employees shown in the commission's report for the fourth quarter of 1920 was 2,136,259 for October, 2,068,454 for November, and 1,976,429 for December. The average for the quarter was 2,060,368, as compared with 1,933,525 for the first quarter of the year, 2,004,760 for the second quarter and 2,157,989 for the third quarter. The average for the year was 2,054,000. The number of employees is that for the middle of each month. The number for December was about 6,000 greater than that for February, but it represents a reduction of 221,395 as compared with August.

The average compensation per employee for the fourth quarter was $159 per month, as compared with $166 for the third quarter, and $133 for the first and second quarters. The average compensation per employee for the year, as shown by the report, was approximately $1,818. In 1917 the pay roll was $1,739,482,142 for 1,732,876 employees, or an average of $1,004. In 1918 it was $2,613,813,351 for 1,841,575 employees, or an average of $1,419. In 1919 it was $2,836,800,000 for 1,993,524 employees, an average of $1,483. The pay roll for 1920 reflects not only the increase in the number of employees and the wage increase awarded by the Railroad Labor Board last July, which was in effect for eight months, but also some of the increases made by the Railroad Administration in the latter part of 1919.



Ding in the Chicago Post

Relics of an Extinct Past

How One Road Plans to Reduce Loss and Damage

An Outline of the Steps Taken to Show Employees How They Can Diminish This Heavy Drain

T. H. Beacom, vice-president and general manager of the Chicago, Rock Island & Pacific, is the author of some interesting circulars recently issued by the Rock Island to enlist the co-operation of its employees in a campaign for the elimination of causes for loss and damage claims. These pamphlets are entitled: "How You Can Help to Prevent Causes for Claims" and "Suggestions on How to Prevent Claims," and have been distributed throughout the system and are being supplemented by articles in the company's magazine. The campaign is conducted by a newly-formed organization functioning directly through the operating department of the road and headed by O. Maxey, who has been appointed general supervisor of claim prevention. Mr. Maxey will be assisted by a district supervisor on each of the two Rock Island districts, and by seventeen division supervisors who will have direct charge of the work of educating the Rock Island employees in matters of claim prevention.

In launching the new organization, Mr. Beacom stated his belief that this education will secure the co-operation of Rock Island employees who have a part in the handling of freight, and that this co-operation in turn will have a two-fold effect. In the first place, a large part of the $2,400,000 which the Rock Island paid out in freight claims in 1919 will be saved. In the second place, reducing this waste will benefit shippers and receivers of freight by improving the service which they receive.

Campaign Takes in All Departments

In addition to the special organization for the prevention of freight claims, a detailed plan has been worked out to carry the campaign into every department of the road. This work will be under the active direction of the district and division supervisors of claim prevention who are to devote their entire time to the campaign. To obtain the maximum efficiency, the division supervisors have been placed on the staff of their respective superintendents and report both to them and to the district supervisor. The district supervisors, in turn, are on the general manager's staff, and report jointly to the general superintendent and the general supervisor of claim prevention.

Furthermore, arrangements have been made whereby every supervising employee is to be actively engaged in claim prevention. To facilitate the work an outline has been prepared demonstrating the manner in which every supervisor and inspector can best assist. The superintendents are charged with the responsibility of enlisting the active co-operation of all subordinate officers in the work of claim prevention. They also act as the organizers and chairmen of claim prevention meetings at which causes of claims are discussed and remedies proposed.

In the case of trainmasters, the plan provides that in traveling over their districts they are to give necessary supervision to claim prevention and are to take immediate action to correct wrong practices in the "handling of freight, baggage, mail and express" wherever such practices may be found. The trainmasters also employ as much of their time as may be necessary in securing the complete co-operation of all employees.

Yardmasters are reminded that many claims are caused by "improper diversion, failure to comply properly with refrigeration instructions, mishandling of way-bills, failure to handle cars promptly through yards, and failure to exercise proper supervision over car inspectors," and neglect in choosing the proper cars to apply on orders. The yardmasters, therefore, are given the task of making all yard employees thoroughly familiar with the rules for handling freight properly and of seeing to the observance of the rules. They also take necessary measures to prevent damage through the rough handling of cars by yard switchmen and enginemen.

Officers Instruct Employees

Chief despatchers are expected to organize their despatchers, car distributors and other employees in order to keep close check on all important shipments so that any cars which are "set out" on account of bad order may be moved again with the least possible delay. Under the direction of the chief despatcher efforts are to be made, not only to issue explicit instructions covering car orders so that the proper cars will be furnished, but also to maintain published schedules and to prevent delay of trains with perishable shipments.

Master mechanics are to conduct a constant campaign to obtain more prompt repairs to equipment and are to see that the work is thoroughly done. These officers are to co-operate with superintendents, trainmasters, and chief despatchers in giving preference for repairs to cars of the class most needed. In addition to these duties, master mechanics are to supervise the education of shippers as to the proper methods of coopering cars. Road foremen of equipment are given the task of instructing enginemen in handling trains and cars carefully. They are to check repairs made both by company forces and by shippers to see that the work is being done to insure a "minimum loss to freight in transit." Road foremen are to observe conditions under which freight is being handled at stations in their territories and are to put into force practices which will work to prevent all class of claims.

On Look-Out for Pilferage

Division engineers have been instructed to pay special attention to the condition of all buildings through which "freight, baggage, mail and express" is moved. The purpose of this work is to keep at a minimum all loss and damage claims resulting from pilferage and injury while freight is being handled in these structures. Hand in hand with the work of the division engineers in checking up the condition of buildings, are the functions of the master carpenters who are to assist in cutting down losses from pilferage and damage by making prompt repairs to railroad structures.

Roadmasters, during normal routine periods, are to observe, and where necessary correct, methods of handling freight in and around stations. In case of accidents, however, they are to supervise the collection of damaged freight and are to provide police protection adequate to prevent thievery while the freight is being gathered and checked.

Bridge and building foremen, like master carpenters, are to take steps to prevent damage to buildings housing freight, and are to make necessary repairs to these structures promptly and thoroughly.

Will Educate Shippers

Traveling freight claim adjusters are to take an active part in educating shippers to a realization of the importance of their part in the prevent-claim movement. The adjusters are to make use of every opportunity to impress upon the shippers the necessity of delivering their freight, no matter in what quantity, properly packed in containers sufficiently strong and well-marked to carry it through to its destination.

The adjusters will not only take an active part in educating shippers; they are also to instruct agents and other employees in the proper method of handling freight. In making reports and handling correspondence these officers are to work both to prevent new claims and to give prompt disposition of those claims which are filed so that patrons of the company will receive satisfactory service.

Refrigerator service inspectors are to specialize on the prevention of claims resulting from the improper handling and disposition of freight which requires "protective service against heat or cold." Fuel supervisors will assist road foremen of equipment in educating enginemen as to proper methods of handling their trains, and will correct any bad practices in loading and unloading cars which they may observe. Scale inspectors are to make every effort to see that correct weights can be obtained in all stations and yards. Demurrage inspectors are to give necessary prevent-claim instructions to all conductors and agents with whom they come in contact.

Correct Bad Car Loading Practices

An important function is given to the cooperage inspectors who are to exercise careful supervision and correction of any careless practices which may obtain in preparing cars for loading, particularly when shipments of small grain are being made. In districts where shippers are coopering cars themselves, these inspectors are instructed to travel on local freight trains to see that this work is done correctly. They are to make similar observations where car repairs are being made by company forces, and are to report immediately to the proper authority whenever they find evidence of insufficient or improper repairs. In the same way, local car inspectors are to assist in claim prevention work by making certain that only cars in good condition are furnished for loading. When inspections of cars are made at terminals, these employees are instructed to give special attention to cars received from connections to make sure that both cars and lading are in condition to carry the shipment through to its destination without damage. The inspectors are to keep cars moving, particularly through yards, by making minor repairs without putting cars on repair tracks.

The police and special service department employees are instructed not only to be on the lookout for improper methods of handling freight, but to watch for pilferage no matter how small it may be. The directions to these employees emphasize the fact that robbery of entire packages and of a part of the contents of packages is one of the largest sources of loss and damage claims. It is the particular province of the company's police to prevent claims of this character.

Traveling freight agents are to act as instructors of shippers in proper methods of delivering freight to the railroad, and of employees in the correct way to handle freight when it has been received by the company. The company believes the large number of causes for claims which originate either in the agent's office, in warehouses, in stations, or on platforms, can be greatly reduced by personal attention from the individual agents. Accordingly, these employees are instructed to supervise any acts which might cause a claim. The agent is also directed to refuse to accept freight, baggage, mail or express unless "it is properly marked, packed and in good condition." Freight conductors are instructed to supervise the proper loading and unloading of freight at stations. They are to see that freight improperly marked and packed is not accepted for transportation, and that once freight has been accepted it is properly stored. Train baggagemen are to exercise the greatest care in preventing damage to freight while it is en route or being unloaded at its destination.

Other classes of employees including claim agents and personal injury adjusters, traveling auditors, traveling car agents and transportation inspectors, water and motor service inspectors, train rule examiners, service and special inspectors, traveling yard supervisors, supervisors of safety and fire prevention, and district car inspectors, all have been instructed to observe and report existing conditions, and to take steps wherever possible to carry on the prevent-claim movement.

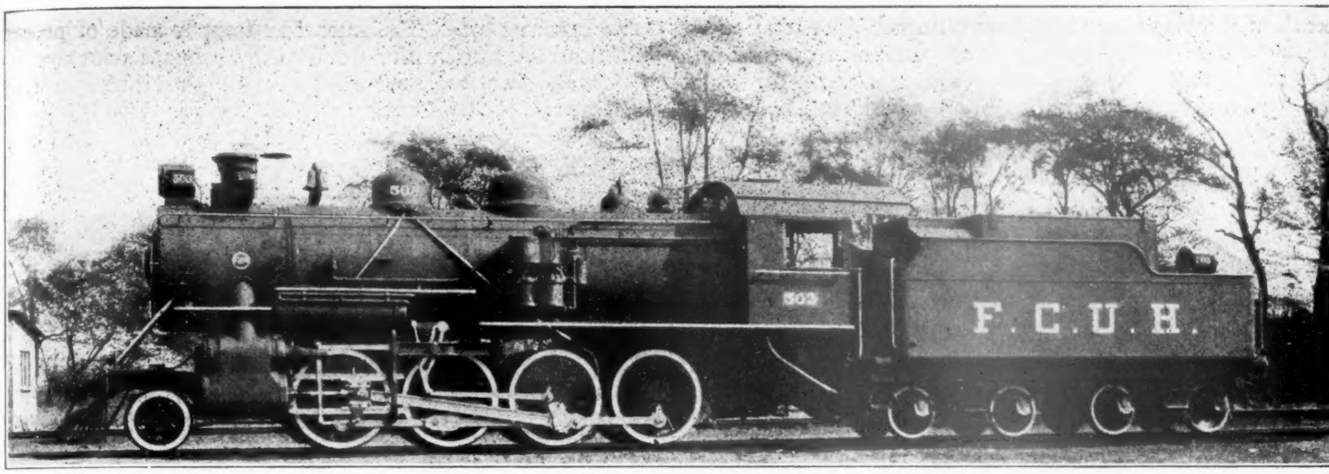
In concluding his directions to Rock Island employees, Mr. Beacom said: "Our patrons are entitled to safe and reasonably prompt movement of the business entrusted to us and I am confident that with full co-operation on the part of the railroad employees, the Rock Island system can make a marked improvement in the handling of its business. Let us adopt as our slogan, 'Prevent Claims' and keep it before us at all times."

Freight Car Loading

WASHINGTON, D. C.

ANOTHER DECREASE in freight car loading, due principally to a reduction in the coal traffic, was reported by the Car Service Division of the American Railway Association for the week ending March 26. The number of cars of revenue freight loaded during the week was 687,852 as compared with 900,386 in the corresponding week of 1920 and 713,275 during the corresponding week of 1919. This represents a reduction of nearly 4,000 cars as compared with the week of March 19, but the loading for four weeks in March is still greater than it was during four weeks in February. The total car loading since the first of the year, however, is 14 per cent less than for the corresponding period of 1920. Declines as compared with the previous week were shown in the loading of grain and grain products, live stock, coal, coke and forest products, while increases were shown in ore and merchandise and miscellaneous freight combined. Loading of merchandise and miscellaneous freight showed an increase of 6,259 cars, and this item has been increasing since the first of the year, but the coal loading set a new low record of 122,189 cars for the week. The reduction in the total loading is accounted for largely by reductions in the Central Western and Southwestern districts as compared with the previous week. Other districts show increase.

The Treatment of Smugglers in Upper Silesia. This Train, in Which 100 of Them Were Riding, Was Burned, with the Loss of Many Lives



The Pershing Consolidation, a Popular Type for Export

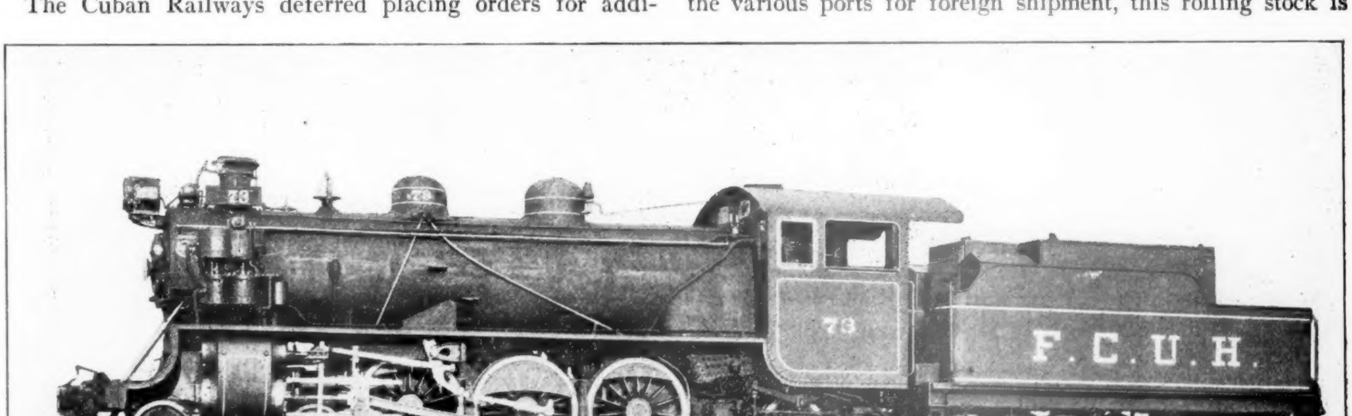
New Power for the United Railways of Havana

Baldwin Works Make Quick Delivery on Large Export Order Comprising Three Locomotive Types

The United Railways of Havana, Cuba, have recently received and are now placing in operation three distinct types of superheated oil burning locomotives manufactured by the Baldwin Locomotive Works. These locomotives include 10 eight-coupled side tank locomotives for switching service, 12 Consolidation type locomotives for freight service and 10 Pacific type locomotives for express passenger service.

The Cuban Railways deferred placing orders for additional motive power during the four years of the war with the resulting condition similar to that which confronted the railroads of the United States, that their operating departments have been compelled to transport a large increase of passenger and freight traffic with a negligible increase in motive power units. This condition has taxed their ingenuity to make ends meet and at the same time give satisfactory service. Brigadier General Jack, formerly director of British Military Railways in France, was recently made general manager of the United Railways of Havana and subsidiary lines, comprising the Western Railway of Havana and the Cuban Central Railways. These combined lines operate approximately 375 locomotives and 11,225 cars over 1,168 miles of standard gage track.

There are approximately 650 locomotives and 16,000 cane cars in operation on 1,500 miles of railroad which are owned and operated by the 193 sugar centrals scattered throughout the island. During the rush season when the sugar cane has been transported to the mills and the sugar carried to the various ports for foreign shipment, this rolling stock is permitted to use the public service railways on a ton-mile basis. In 1920 960,000,000 lb. of sugar was moved for export.



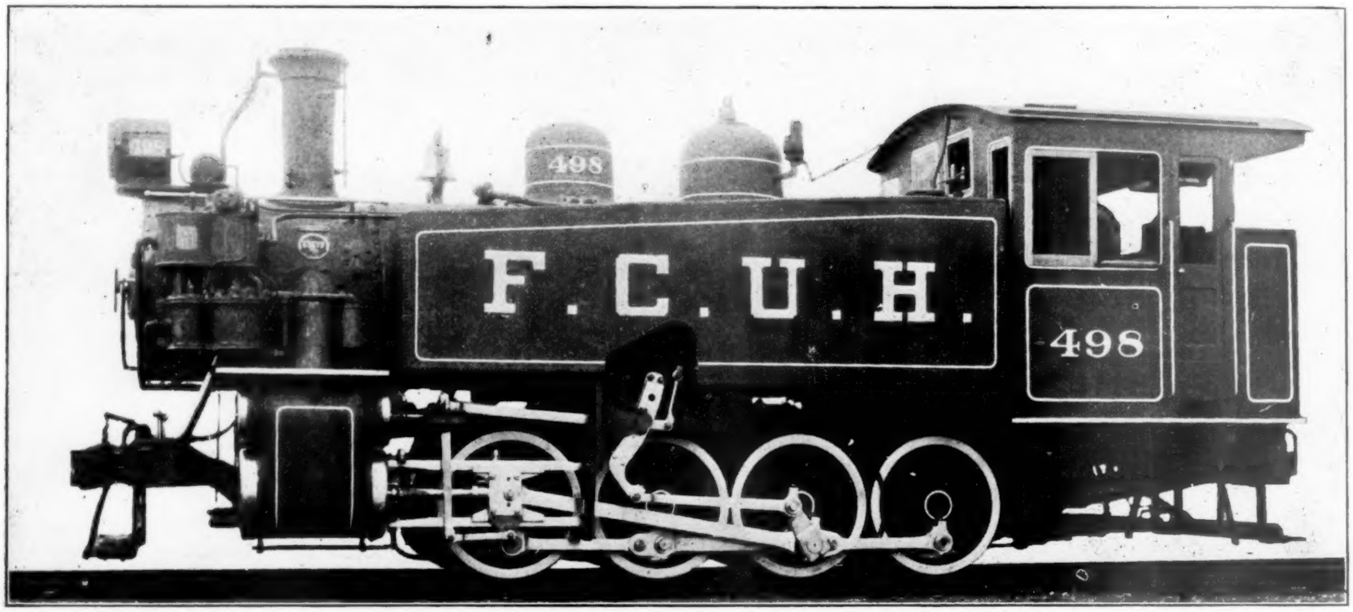
Designed for Express Passenger Service Between Havana and Santiago

A Compact and Sturdy Switcher

The Eight-wheel switching locomotives are compact and modern in every respect. They are to be utilized in railway yard work in and around Havana, Santiago and other points. In order to eliminate all rocking motion this engine incorporates comparatively small oil and fuel tanks in its design as large tanks are unnecessary due to the engine being within

reach of water and fuel supply at all times. The total weight of the engine, 142,200 lb., is evenly distributed on the four pairs of coupled driving wheels, which are placed as close together as possible, permitting the locomotives to traverse curves of about thirty degrees.

Although the engines are compact the various parts are accessible for adjustment or repair; for example, the air pumps are fitted on the side of the smokebox, while the electric headlight generator is on top of it. The injector check is fitted on the top of the boiler, the valve motion is on the outside and sufficient space is allowed between the boiler and frames for the inspection of all parts between the frames. These locomotives are equipped with superheaters having a heating surface of 237 sq. ft., which is exceptional for engines of this type, especially for switching engines in foreign service. The cab is large, allowing the engineer plenty of room and a clear view both front and back. These switching locomotives are capable of exerting 31,860 lb. tractive effort, at which the factor of adhesion is 4.5.



All Appliances Are Conveniently Located on This Eight-Wheel Switcher

Pershing Type Consolidations

More space has been provided for the operators in this design by the cab being widened and the top raised. The coupler lug height has been raised so that the tenders now in use by the railways may be interchangeable with their old and new motive power units. The boiler is exceptionally large and has sufficient steaming capacity to operate the engine and its rated load at a constant speed of twenty miles an hour. The maximum tractive effort exerted by these locomotives is 35,625 lb. These locomotives are modern in every respect, being equipped with air brakes, air sanders, air bell ringers and electric headlights. They are equipped with superheaters having 420 ft. of heating surface. The smoke stack is supplied with a damper which prevents, to a certain extent, a quick cooling of the engine at the end of a run.

Pacifics for Through Passenger Service

The Pacific type locomotives were designed to haul the Havana-Santiago express, a train of six to eight cars, at a maximum speed of thirty miles an hour. All parts of each engine are interchangeable. These locomotives are equipped with superheaters having a heating area of 487 sq. ft. The smokebox is of the extended type and fitted with an adjustable petticoat pipe. The smokebox front is made of pressed steel carefully fitted with a dove-tailed asbestos joint ring.

These locomotives are equipped with air brakes, electric headlights, air bell ringers and air sanders. The injectors, lubricators and safety valves are of the latest approved types. The tenders for these engines are substantially constructed of steel channel frames erected on two four-wheeled, center bearing trucks of the arch-bar type. On this frame is attached a steel flooring upon which is mounted a U-shaped water tank with a capacity of 5,000 U. S. gallons and an oil tank of 3,200 U. S. gallon capacity. These locomotives develop 25,700 lb. tractive effort and will negotiate 20 degree curves and 2 per cent grades.

The principal dimensions for the three locomotives are tabulated below:

	Eight-wheel Switching	Consolidation	Pacific
Gage	4 ft. 8½ in.	4 ft. 8½ in.	4 ft. 8½ in.
Cylinders	20 in. by 24 in.	21 in. by 28 in.	20 in. by 26 in.
Valves	Piston type	Fiston type	Piston type
Boiler:			
Diameter	56 in.	70 in.	65 1/16 in.
Working pressure	180 lb.	190 lb.	180 lb.
Firebox:			
Material	Steel	Steel	Steel
Staying	Radial	Radial	Radial
Length	84 1/16 in.	122 7/16 in.	84 3/16 in.
Width	42⅞ in.	38¼ in.	65¼ in.
Grate Area	25 sq. ft.	32.5 sq. ft.	38.2 sq. ft.
Tubes and Flues:			
Flues	15 5½ in.	26 5⅜ in.	22 5⅜ in.
Tubes	107 2 in.	165 2 in.	151 2 in.
Length, tubes and flues	13 ft. 1 in.	13 ft. 9⅛ in.	18 ft. 6 in.
Heating Surface:			
Arch	....	....	16 sq. ft.
Firebox	118 sq. ft.	181 sq. ft.	158 sq. ft.
Tubes	728 sq. ft.	1,181 sq. ft.	1,456 sq. ft.
Flues	300 sq. ft.	500 sq. ft.	570 sq. ft.
Total	1,146 sq. ft.	1,862 sq. ft.	2,200 sq. ft.
Superheater	237 sq. ft.	420 sq. ft.	487 sq. ft.
Wheels:			
Diameter, outside	46 in.	56 in.	62 in.
Diameter, center	40 in.	60 in.	56 in.
Journals, main	8 in. by 9 in.	9½ in. by 10 in.	9 in. by 11 in.
Journals, others	8 in. by 9 in.	9½ in. by 10 in.	9 in. by 11 in.
Wheel Base:			
Base, driving	11 ft. 9½ in.	15 ft. 6 in.	11 ft. 0 in.
Base, total engine	....	23 ft. 8 in.	30 ft. 0 in.
Base, total engine and tender	....	55 ft. 1½ in.	57 ft, 2¾ in.
Weight:			
On driving wheels	142,200 lb.	152,500 lb.	104,500 lb.
On truck, front	....	16,700 lb.	41,000 lb.
On truck, back	....	....	31,000 lb.
Total engine	142,200 lb.	169,200 lb.	176,500 lb.
Total engine and tender	....	273,900 lb.	294,000 lb.
Tank capacity	2.000 U. S. gal.	5,000 U. S. gal.	5,000 U. S. gal.
Fuel oil capacity	700 U. S. gal.	3,200 U. S. gal.	3.200 U. S. gal.

Hearings on National Agreements Continue

More Railway Executives Cross-Examined—Employees' Representatives Present Economic Studies

DEVELOPMENTS during the past week in the dispute over the continuation of national agreements have been many and varied. They include (1) the presentation of an historical volume regarding railroad working conditions and national agreements; (2) the presentation of analytical studies by W. Jett Lauck, consulting economist of the labor organizations, who is attempting to portray the necessity for national agreements in the railroad industry by voluminous economic studies of similar developments in other industries; (3) the cross-examination of W. G. Besler, president of the Central Railroad of New Jersey; H. E. Byram, president of the Chicago, Milwaukee & St. Paul, and Frank McManamy, formerly assistant director, mechanical department, Division of Operation, of the United States Railroad Administration; (4) the decision by the board not to admit representatives of shippers as parties to the dispute over working conditions; (5) the calling of Judge R. M. Barton, chairman of the board, to a conference with President Harding and Edgar E. Clark, chairman of the Interstate Commerce Commission, at Washington; and (6) the dispatching of another long telegram to the President by Mr. Jewell.

While these numerous and various developments indicate that the Labor Board has spent an especially busy week, there is nothing to indicate that the long controversy over the employees' demands for perpetuation of their "national agreements" is nearing its close.

B. M. Jewell Continues Rebuttal

The rebuttal of B. M. Jewell, president of the Railway Employees' Department of the American Federation of Labor, and spokesman for the "Associated Standard Recognized Railroad Labor Organizations," the opening statements of which were described in the *Railway Age* of April 1 (page 845), took three and a half days to complete. All of the board's sessions on March 24, 25 and 28 and part of the session on March 29, were taken up by Mr. Jewell in reading volumes of correspondence showing the cordial relations existing between the Railroad Administration and the Railway Employees' Department of the American Federation of Labor, the co-operation extended to the railroad administration by the various shop crafts organizations and the negotiations leading up to the disputes over wages and working conditions which have been before the board since its creation.

W. J. Lauck Presents Economic and Historical Exhibits

W. Jett Lauck, consulting economist of the labor organizations, on March 29 began the presentation of a series of exhibits which will establish, according to Mr. Lauck:

1. The policy of establishing national agreements, or uniform rates of pay and working conditions, is in conformity with custom and precedent in the transportation industry, and in accordance with the best public policy as shown by the awards of boards of arbitration, and the acts and recommendations of other official agencies during the pre-war period.
2. In other leading basic industries of this country, collective bargaining on a national scale, and national agreements as to working conditions and relations, have been found to be the best means of stabilizing conditions, promoting industrial peace, and accelerating production.
3. That in Great Britain these facts have become so clearly recognized by both employers and employees that national agreements are encouraged by the Federated Industries and the Federation of Trade Unions as a whole, and the effort is being exerted to make them compulsory upon all employees in a given industry.
4. That the former railroad administration in entering into national agreements, therefore, merely recognized a tendency which had almost reached complete development prior to the war and which was sanctioned by enlightened opinion both within and without the transportation industry.
5. That the representatives of the railroads have practically given their sanction to national rates of pay and working conditions of engine and train crews. These classes of employees have uniform rates of pay and working conditions embodied in agreements with individual railroads, but *underwritten* by the national organizations of these employees and concurred in by the railroads on a national basis. This is just as much a national agreement or standardization as it would be to agree upon wages and working conditions nationally and then embody the agreement into agreements with individual railroads.
6. We shall show further that the arguments of the railroads are the same which have been urged in all past years to prevent the establishment of humane standards in industry, and shall demonstrate that the railroads are now consciously and deliberately taking advantage of a temporary industrial depression to destroy humane standards which are sanctioned by the thought and practice of the leading industrial nations of the world.

"The root of the railroad difficulty, we shall show, is not in national agreements but in the inadequacies of the management," Mr. Lauck said. "Conservatively stated, if railroad management was characterized by reasonable efficiency and had available for its proper use a proper amount of credit or capital, labor costs would have shown a radical decline under national agreements, and savings in operating expenses of at least one billion dollars annually would be made.

"The claim of General Atterbury that the national agreement produces inefficiency and waste we shall answer in our next series of exhibits," he continued. "We shall submit evidence to show that the output of the employees, or their productive efficiency, has greatly increased as compared with the pre-war period. That a much greater volume of traffic has been handled by fewer employees working a fewer number of hours.

"To our minds the policy of all the comparisons that are made is that they are made with 1917 when the railroad industry had been practically depleted by the tendencies which have been drawn forward since 1914 following the industrial depression at that time and the loss of forces which were not recruited up to 1917, when the railroad administration took control. When you study the number of employees at the present time you see that practically we have not got back to a normal basis as yet on the railroads, instead of having an excess over, and when that is compared with the work actually done we find that a much greater volume of traffic is handled by fewer employees working a fewer number of hours now as compared with the pre-war period.

"Our conclusion is that labor has been more productive, but it has not had a proper chance; it has not met with the proper response on the part of the managements, and especially the railroad industry being depleted of capital or credit practically since 1910—without going into the cause of that whatever the cause may be—it is handicapped by the inadequacy of managements. We are not especially charging the managements with incompetency or inefficiency, but we are speaking of the inadequacy rather than the inefficiency."

These exhibits were not made a part of the record in the case but were filed as separate exhibits, Mr. Lauck pointing out their salient features, taking so far three and a half days for this purpose. On March 30, in describing part of his

exhibit which was concerned with the agreement formed between the manufacturers of clothing and their employees, Mr. Lauck charged, in reply to a question, that the forces which are alleged to be back of the clothing manufacturers in their attempt to nullify this agreement in New York are the same forces which are behind the railroads in their attempt to abrogate the national agreements. This remark brought forth the statement from J. G. Walber, a member of the Conference Committee of Managers of the Association of Railway Executives, that Mr. Lauck was probably "suffering from a mental hallucination."

The Movement Toward National Agreements

In presenting his first exhibit, entitled "The Movement Toward National Agreements," Mr. Lauck said, "The logic of events has demanded that national organization of labor and the negotiation of national agreements. Organization of the employees, as well as organization of the unions, has become nation-wide because the industries themselves have become nation-wide, markets have become at least nation-wide, competition or consolidation has expanded, the fields of finance have widened, migration of labor has increased, and the trade associations of employers have become national in scope."

Mr. Lauck explained that the exhibit dealt particularly with conditions in other industries which had led to national agreements, the experience in working out such agreements and the results achieved through their being placed in operation.

He traced the development of labor organizations from a local to a national scale and quoted labor historians as stating that no change in industrial technique, not even the utilization of steam as a motive power, had ever had so simultaneous an effect upon all industries as had the sudden extensions of markets due to the railroad consolidations of the fifties.

"The national agreement averts industrial interruption," he continued. "The consensus of the evidence adduced shows that in the rapid expansion of our industries we have reached the point where nothing but discord results from independent action by shop committees and local unions. The national labor organizations, like the national associations of employers, can view policies from a national standpoint, they have greater responsibilities and therefore give all questions more careful thought before acting. The testimony on the part of employers where the national agreement has been in effect shows conclusively that it opens the way to industrial peace."

Mr. Lauck then reviewed the genesis and operation of national agreements in the stove industry, in the glass bottle industry, in the pottery industry, between the workers and the international association of electrical contractors and the dealers, between the typographical publishers' association, in the bituminous coal mining industry and in the clothing manufacturing industry. All these agreements, he declared, had been productive of beneficial results both to capital and to labor and he outlined the views of employers, economists, government investigators and arbitrators, all of which, he said, tended to show (1) that industrial peace is attained by national agreements; (2) that the establishment of uniformity is socially important; (3) that unions do observe their contracts; (4) that it is important that national agreements cover working conditions; (5) that trade agreements are not inconsistent with the genuine open shop, and (6) that trade agreements humanize the industrial situation. The document also included a discussion and account of the historical experience of England in the matter of collective bargaining and national agreements. The British experience, he said, parallels substantially the same principles which have been developed in American progress in industrial relations.

The Unity of the American Railway System

Mr. Lauck's second exhibit, an analytical summary of "The Unity of the American Railway System," was presented to show, Mr. Lauck said, the substantial unity of the American railway system by the following facts:

1. The basic roadways and rail systems of America's railways have become virtually inter-connected and unified into one great system of continental extent, substantially uniform in character and standard in construction throughout, the differences obtaining being matters not of primary importance.
2. The equipment is essentially national in the range of its movement and use, and substantially uniform in its character, except for secondary differences.
3. The American railway system, in its national scope, is operated under a system of uniform time, uniform train rules, signals, etc.
4. The entire system is controlled under substantially one system of accounting, nation-wide in its application.
5. The public service requirements of the railway system have become essentially general in character—the shipper requires and receives through rates and through billing of goods, or passenger transport from any point to any point.
6. The entire system operates, with certain regional variations, under highly unified and standardized systems of freight and traffic classification and with largely identical rates.
7. The system is controlled by a highly unified system of financial organizations, and operative and administrative associations.
8. A nationally unified system of operating intelligence, car-service information, traffic statistics, is maintained and cleared through the American Railway Association, and a more general railway information system is maintained through the Bureau of Railway Economics, besides the unifying information and control exercised through the Interstate Commerce Commission.
9. Governmental recognition of the unity of the American railway system, in matters essential and fundamental, is expressed in the legislative, the administrative, and also in the judicial pronouncements of the United States government.

"This exhibit," he said, "relates particularly to the matter of the elimination of inequalities in treatment upon the railway system, to the question of who should be parties to agreements and who may be parties to this dispute."

"It tends to show," he continued, "between what parties the question of working conditions is normally joined. It may have a bearing also upon 'the respective privileges, rights, and duties of carriers and their employees, and may relate to the making of regulations necessary for the efficient execution of the functions vested in the board, to the end that interruptions of traffic shall be avoided."

Ex-President Taft's Interpretation Attacked

During the presentation of this last exhibit an interesting discussion was started by G. W. W. Hanger, public member of the board, who called attention to the interpretation of the Transportation Act which has recently been made by ex-President William H. Taft and which has been widely circulated in the press. Mr. Taft's interpretation of the principle of collective bargaining as defined in the act, is contrary to that of the brotherhoods, and was characterized by Mr. Lauck as being founded on partial information furnished by railway executives. Mr. Lauck admitted, however, that material regarding the present controversy had been sent to Mr. Taft in an effort to present the employees' interpretation of collective bargaining. Both Mr. Jewell and Mr. Lauck stated definitely that they did not agree with Mr. Taft's interpretation.

The next exhibit presented by Mr. Lauck was entitled, "Railroad Boards of Labor Adjustment," the purpose of which is that national agreements are closely inter-related in principle and therefore practically inseparable, and that the Transportation Act itself contemplated national adjustment boards.

At various times throughout the hearing the introduction of much of this evidence was objected to by Messrs. Hanger, Park, Elliott, Walber and others, but in the majority of cases these objections were over-ruled after representatives

of the employees had protested against interfering with the presentation of their cases.

At the close of the public session on April 1 Mr. Jewell stated that the preliminary presentation on behalf of the employees had been completed, but that they had several additional exhibits in the course of preparation and these would be filed with the board after completion of the cross-examination of the executives summoned to appear before the board on April 4.

Cross-Examination of W. G. Besler

W. G. Besler, president of the Central Railroad of New Jersey, summoned to appear before the board at the behest of Frank P. Walsh and Mr. Jewell, like his predecessors on the witness stand, proved a tartar when he consistently met Mr. Walsh's attack with the apt expression, "circumstances alter cases." Mr. Walsh, in his examination of the witness, followed the same line of attack pursued in questioning T. DeWitt Cuyler, General W. W. Atterbury and Carl R. Gray two weeks ago. The points he attempted to establish at that time were outlined in the *Railway Age* of March 25 (page 303). The effort and the failure at that time were repeated in the examination of Mr. Besler.

Mr. Besler freely admitted that certain rules in the shop crafts' national agreement were in effect on the Central of New Jersey prior to federal control, but the attempt of Mr. Walsh to infer that therefore the rules were applicable nationally failed on the stand that "circumstances alter cases." The only rule upon which Mr. Besler and Mr. Walsh agreed as a fair rule and fit for national application was the Golden Rule, which the former stated he had tried to apply on his road and which both agreed could easily be applied on all roads.

In going through the rules of the shop crafts agreement Mr. Besler pointed out that many were silly, others unnecessary and still more unfair. Regarding many of the rules, Mr. Besler said: "Many of the rules have no place in the book. They are properly a function of management and of far more interest to an intelligent, efficient management than they are to the employees. The managerial function presupposes an agreement between the company and its employees and perhaps agreement among the employees, but the one is not contingent upon the other."

The original proof of the Central of New Jersey plan, which Mr. Besler's employees advocated heartily at the end of federal control until interfered with by national union officials, was introduced into the records. Mr. Besler also went on record as believing without prejudice in the right of men to organize or belong to any organization they wish, and said no one should be discriminated against by reason of his affiliations. Mr. Besler's opinions on the right of the majority to represent the minority were contrary to the stand taken by General Atterbury that the minority had a right to direct representation. Mr. Besler not only conceded majority representation as regards all employees, but also granted the right of the majority of each craft on each road to select a committee to represent them.

When the subject of the eight-hour day was taken up by Mr. Walsh, Mr. Besler replied that the length of the day depended entirely upon circumstances, and that it was conceivable that a ten or twelve-hour day might be preferable under certain circumstances. To this Mr. Walsh returned the verdict, "that is unethical, if not immoral."

"But," said Mr. Besler, "the farmer has never regarded the eight-hour day. Is that unethical?"

"Not at all," replied Mr. Walsh.

"Why isn't it?" asked Mr. Besler.

"That's the sad condition of the farmer," returned Mr. Walsh. "The farmers desire leisure like the next man, but there are a great many factors which enter into consideration. Were it not for the machinery at work, principally the railroads, the farmer would not have to work from sun-up to sun-down."

The examination at one time touched upon government ownership, when Mr. Besler asked if a man were not worse off to ask wages so high that the industry could not pay them and so have to shut down than he would be if he accepted a lower wage and more permanency.

"The industry then should turn to government ownership," said Mr. Walsh, but the whispered advice of one of the labor leaders ended the discussion as quickly as possible.

E. E. Loomis Declines to Testify

Immediately preceding the cross-examination of Mr. Besler a letter was read into the board's records from E. E. Loomis, president of the Lehigh Valley, who had been summoned to appear with Mr. Besler and Mr. Byram. Mr. Loomis declined to testify on the grounds that "he had no information that would throw any light on the workings of the rules of the national agreements." On the strength of this assertion the labor leaders waived their request for his cross-examination. At the same time they requested the summoning of Frank McManamy to appear on April 6.

At the opening of the session on April 6 Mr. McManamy and Mr. Jewell began the presentation of their direct rebuttal to the testimony presented on behalf of the carriers regarding the Shop Crafts' Agreement. Mr. Jewell's testimony was largely in commendation of the work performed by Board of Adjustment No. 2 during the period of federal control and he cited as evidence of this the fact that there was no legal strike on any railroad under federal control while this Board was in existence. When Mr. McManamy appeared Mr. Jewell permitted him to take the witness stand and he opened the examination by reading a long list of questions which were to be asked. These questions all aimed to establish facts in opposition to the carriers' stand as expressed by several witnesses, viz. that the Railroad Administration was coerced into entering into National Agreements and that the establishment of these agreements has resulted in decreases in efficiency and destruction of the morale of individual workers. Several of the questions indicated one of the employees' contentions that the uneconomical and inefficient practices brought about by the application of the National Agreements and cited by Mr. Whiter in this presentation are the result of a studied effort on the part of the railway executives who were in control of the carriers during the period of federal control. After presenting these questions Mr. McManamy was permitted to answer them without examination and in taking up the first 18 of these questions at this session his testimony throughout was in favor of employees' contentions. In general he contended that the National Agreements promoted efficiency and economy, removed unrest, reduced labor turnover and prevented competition for labor. Mr. McManamy's testimony will be covered more fully in next week's issue of the *Railway Age*.

Examination of H. E. Byram

When Mr. Byram was placed on the stand on April 5 Mr. Walsh was confronted with the same situation which has prevailed in the cross examination of all of the executives during the past two weeks. The same effort to get the witness to admit the applicability of some rules to national use was made and the same result was obtained; the reiteration that the only rules which are good rules and fair are those negotiated between the men who work under them and the men who are responsible for their proper application.

In reply to questions, Mr. Byram outlined the developments which took place in the meetings of the labor committee of the Association of Railway Executives and interpreted these developments. Following this Mr. Walsh tried to get Mr. Byram's sanction to all of the rules, established by the arbitration board of six, under the Newlands

act in 1915, of which Mr. Byram was a member. These rules were adopted by ninety-eight roads west of the Mississippi river, but Mr. Byram made it clear he did not favor all of these rules, but had to agree in the arbitration.

Asked if the work day was not an important thing in industry, Mr. Byram said that it was a most important thing.

"There should be an agreement on hours a man should work each day," he added, "not a rule or law."

"When you have agreed," asked Mr. Walsh, "do you think such agreements should be stated in some kind of rules?"

"I agree with that," said Mr. Byram, "but the parties who apply these rules should be the ones who made them. There is a great difference between what you mean and what you say. The great difficulty is in the application."

Before Mr. Byram took the stand, Mr. Besler was recalled. He immediately refused a request of Mr. Walsh for the notes from which he had previously read in commenting on national rules.

James M. Sheehan, counsel for the railroads, then cross-examined Mr. Besler, questioning him particularly on the rules of the National Agreement which Besler said yesterday were substantially in effect on the Central of New Jersey prior to government control.

Mr. Besler's answers were to the effect that if these rules were properly applied they were acceptable, but not as applied under interpretations placed upon them under the Railroad Administration.

B. M. Jewell Again Appeals to the President

On March 31, Mr. Jewell again appealed to the President asking him to use his influence to bring about a conference between the railway executives as they are organized nationally and the railway employees as they are organized nationally to compare the differences on all points in dispute. This request was predicated on President Harding's statement in his inaugural address when he said, "I had rather submit our industrial controversies to the conference table after conflict and suffering" and upon the employees' interpretation of the Transportation Act which "contemplates such a conference."

Reports from Washington indicate that the President will not act upon this request.

Board Denies New York Central's Petition

The Labor Board on April 7 denied the application of the New York Central for the granting of an immediate temporary decrease in wages of unskilled labor and set April 18 as the date for hearings on the justness and reasonableness of the rates of pay established by Decision No. 2. At the same time the Board set April 18 as the date upon which the hearings will be held on all of the disputes over wages so far referred to the Board or which may be referred in the meantime. The employees will be given eight hours for oral presentation and the carriers a similar period and the remainder of testimony is to be filed with the Board.

Hearings on the request of the New York Central for the authorization of a temporary decrease in the wages of its unskilled laborers were held by the Railroad Labor Board at Chicago on March 30 when Jacob Aronson, counsel for the road, presented briefly the carrier's request and data relative to the wages being paid unskilled laborers in outside industries along the New York Central. The dispute and the proposal of the road was described in the *Railway Age* of April 1, (page 846). In bringing the controversy before the Board, the New York Central asked that a temporary decrease be authorized effective on April 1, the final award of the Board to be retroactive to that date.

In outlining the reasons for this request, Mr. Aronson said:

"The policy of making awards of wage increases retroactive has heretofore been recognized. That policy has been followed by this Board. Justification for this practice was undoubtedly that neither side should suffer or profit by the delay necessarily entailed in the deliberate consideration and determination of wage controversies. We submit that by virtue of the same logic any downward adjustment of wages should also be made retroactive. In the case of wage increases it is practicable to make the award retroactive because in such case there is only the employer to deal with, but because of the large number of employees involved it is manifestly impracticable if not impossible to make a reduction in wages retroactive merely by virtue of the ultimate award. The only feasible method by which reduction in pay can be made retroactive is by the establishment of the reduced rates provisionally upon the understanding that such establishment by the Board is without prejudice to its ultimate determination of just and reasonable wages and that the ultimate award of the Board shall be retroactive. In this way the employees are not financial losers below the basis that may be determined by the Board to be just and reasonable."

Following the presentation of this request, Mr. Aronson filed data regarding the wages being paid for unskilled labor in outside industry, the changes in the cost of living and other facts pertinent to the determination of a just and reasonable wage. In addition the following witnesses were called upon for data on the wages being paid for farm labor, Silas L. Strivings of the New York Farm Bureau Federation; Frank M. Bradley of the New York State Federation of Agriculture, and F. E. Warner of the Michigan Fruit Exchange.

B. M. Jewell, president of the Railway Employees Department of the American Federation of Labor, speaking for the employees, objected strenuously to the carrier's request, saying, "The employees waited for eighteen months, suffering under a rapidly increasing cost of living, for relief." His objections to the request were based on the grounds that rates of pay did not go up apace with the cost of living and that therefore they should not come down apace, that the present financial situation of the railroads is due to a temporary depression and that a temporary decrease is therefore unnecessary and that since freight and passenger rates were raised to meet the wage award of last July no reductions should be made in the wages of employees unless the savings therefrom be turned back to the public by lower rates.

The hearing was closed on March 30.

National Industrial Traffic League Petition Denied

On March 29 the Labor Board formally denied the petition of the National Industrial Traffic League to be made a party to the hearings on rules and working conditions now before the Board. The resolution holds that the league "is not entitled to be heard in this dispute."

"In the opinion of this Board," the decision said, "the hearing of the said petitioner as a witness would not be helpful and would not be in the public interest. If this petitioner is heard, other organizations of shippers, of which there are many, must be heard. If such organizations are to be heard, manufacturers, Chambers of Commerce, farmers, bankers, and other interests must also be heard. If these are to be heard, adverse organizations, such as labor unions and organizations whose members hold definite economic views opposed to the views of those named, must also be heard."

To this the Board objects on the ground that it would involve long delay, and adds, it is not unmindful of the public interest in the matters in dispute, "as it affects the interest of the public as well as the interests of the two parties directly concerned."

The league's answer to the Board's denial was an immediate challenge through its attorney, Luther M. Walter. He

wanted to know among other things how the three members of the Board, whose terms expire April 1, voted on the petition, in order that the league might fight reappointment of any of the three who voted against the public.

St. Louis Southwestern Case

On April 1 the St. Louis Southwestern came before the Board as a result of a resolution passed by the Board and stating that it had reason to believe that that road had violated Decision No. 2 in cutting the wages of employees in pile driver, bridge and building paint gang, house gang and tinner services on November 25. W. A. Webb, vice-president and general manager, denied the charges in toto and stated that the only modification of Decision No. 2 made by the road was made by contract with individual men. J. C. Smock, representing the employees, submitted letters and affidavits to prove that the road had violated the principle of collective bargaining as outlined in the Transportation Act and that no conferences have been held in conformity with the provisions of the Act. He charged the carrier with coercion and intimidation on the grounds that economic necessity made it necessary for the individual men to accept the contracts offered by the road for the work outlined above. The Board took the case under advisement.

Short Lines Get Postponement

The nineteen short lines which were to have appeared before the Board on April 4 and 6 have had their cases postponed until April 18 and 20. These carriers have reduced the wages of their employees without the authority of the Board and when the employees appealed to that body for redress, it advised them to accept the lower wage scales under protest until hearings could be held and a decision rendered.

The roads involved in these disputes are the Atlanta & St. Andrews Bay, Boyne City, Gaylord & Alpena, Brooklyn Eastern District Terminal, Butler County, Butte, Anaconda & Pacific, Canton Railroad, Georgia & Florida, Philadelphia, Bethlehem & New England, Waupaca-Green Bay, Tennessee, Alabama & Georgia, Alabama, Tennessee & Northern, Cornwall, De Queen & Eastern, Gulf, Texas & Western, Northampton & Bath, North Western of So. Carolina, Patapsco & Back River, South Georgia, Texas, Oklahoma & Eastern.

Many Roads File Wage Reduction Petitions

The conferences which have been held this week on many railroads between the management and the employees looking toward wage reductions have been no more successful than the conferences held previously, and it is evident that the number of cases before the Board will increase.

Among the roads which have wage reduction cases before the Board are the New York Central, the Boston & Maine, the Chicago, Indiana & Western, the Denver & Salt Lake, the Boston & Albany, the Ann Arbor, the Lehigh & New England, the Indiana Harbor Belt, the Maine Central, the Detroit & Mackinac, the Gulf, Colorado & Santa Fe, the Atchison, Topeka & Santa Fe, the New York, New Haven & Hartford, the St. Louis-San Francisco, the Pittsburgh & Lake Erie, the Gulf Coast Lines, the Buffalo, Rochester & Pittsburgh, the Toledo & Ohio Central, the Rutland, the Delaware, Lackawanna & Western, the Lehigh Valley, the Erie, the Chicago & Northwestern, and the Cleveland, Cincinnati, Chicago & St. Louis.

New York Times' Story on Lauck's Exhibits

Mr. Lauck's various exhibits mentioned above are expected to contain some rather interesting criticisms of railway management and operation, if a statement purporting to give some of the high points of what Mr. Lauck is expected to say, which appeared in the New York Times of Monday last, is any indication. The article shows that Mr. Lauck has in many cases taken his material from statements of railway officers and other experts who have outlined acknowledged omissions in expressing their desire to remedy them, provided there were sufficient funds available to do so. The exhibits in question had not been made public up to the time of going to press. In other words, they do not form part of the testimony which had been presented to the Labor Board up to that time. The material which follows is an abstract of the story as it appears in the Times.

Mr. Lauck's evidence to support his charge that inadequacies and inefficiencies of railroad management add $1,000,000,000 annually to the expenditures of the railroads of the United States is in the shape of an exhibit prepared by a "group of engineers." Parts of it are supported by statements of railroad executives and engineers. Technical journals, such as the *Railway Age* and Railway Mechanical Engineer also are quoted extensively. Some of the items of the estimated saving which efficient management might bring about, according to Mr. Lauck, are tabulated as follows:

Modernizing locomotives	$272,500,000
Locomotive opr., firing methods	50,000,000
Shop organization improvements	17,500,000
Power plant fuel savings	10,000,000
Water consumption savings	12,600,000
Service of supply savings	75,000,000
Shop cost accounting savings	10,900,000
Labor turnover savings	40,000,000
Loss and damage savings	90,000,000
Total estimated annual savings	$578,500,000

Other items which will be enumerated in the exhibit as offering opportunities for additional savings include car equipment, operation and maintenance, engine terminals, permanent way improvements and maintenance, signal maintenance, train operation, research and engineering, miscellaneous overhead advertising, etc. Savings on these items, it is claimed, will bring the total well above the $1,000,000,000 mark fixed by Mr. Lauck in his opening statement.

Twelve devices are listed in the exhibit as available for modernizing all of the present inefficient and uneconomical locomotives, and detailed figures are given to show that of the 65,000 locomotives in service only a small percentage are equipped with any of these devices. For example, the statement is made on the authority of an engineering expert that 22,000 locomotives are being operated without brick arches, which, it is asserted, could be economically installed in any roundhouse, with a reduction in fuel consumption of 10 per cent or an increase in boiler capacity of 11 per cent.

Another expert who is quoted on repair shops, says the railroads are $140,000,000 behind in improvements which should have been made in the last ten years, and adds: "The railroads will not purchase a new outfit of lathes, but continue to use some over 50 years old, and are paying modern wages to watch those antiquated curiosities feebly fooling away their time. Meanwhile the operator is resigned to slow death. It is certainly poor reasoning to spend $10 in labor when $1 in tool service and $4 in labor properly supported could have saved $5 on the same job."

On the item of service of supply the exhibit says:

"The railroads spend over $1,000,000,000 for supplies each year. They use nearly 50,000 different working parts and accessories. At any given time $600,000,000 worth of supplies will be on hand, of which 40 per cent is scattered along the line. With a few outstanding exceptions, the companies are negligent in caring for these immense stocks. They have not co-ordinated their purchasing and storing functions. They do not budget requirements properly, lacking which, both purchasing and delivery are inefficiently administered. They do not care adequately for their stores; they pile them badly; they leave them without suitable shelter to rust and decay; their storehouses are poorly arranged and often poorly located; they do not properly reclaim worn out material; their stock records are seriously deficient and their accounting for stores primitive.

"The Railroad Administration has estimated that the

waste and abuse of materials amount to not less than $75,-000,000 a year, a figure which the *Railway Age* endorses."

On the subject of "miscellaneous losses" the exhibit says:

"The question of operating efficiency of the railroads cannot be closed without reference at least to possible savings in various items of overhead expense. Millions are now being spent in propaganda advertising to secure the good will of the public. The same amount spent on scientific research would be many times as effective, and reduce costs into the bargain. The salaries of railroad officers are well known to be exorbitant in some cases.

"From $12,000,000 to $15,000,000 a year is spent for legal services. How much of this represents lobbying and special pleading? How far have the railroads burdened their expense accounts with the carrying charges of injudicious investments in non-railroad properties? How far are the great sums spent for competitive advertising and outside agencies in line with efficient service, even under private ownership? All these items need careful scrutiny from the standpoint of preventable waste."

Mr. Lauck proposes to discuss also economies that might be effected through consolidation of the railroads into a few large systems, the financing of the transportation industry on a permanent instead of a hand-to-mouth basis, with large, long term credits, and the operation of the roads on a cost of service plan. He estimates these possible economies at another billion annually, and by many illustrations points out that inadequate terminal facilities of the roads is almost entirely responsible for the large items of overtime and idle or non-productive labor costs of which the railway executives complain.

Brotherhood Leaders Confer with Securities Owners

On April 4 a committee representing the National Association of Owners of Railroad Securities, headed by S. Davies Warfield, president of the association, met in conference with the heads of the train and engine service brotherhoods, at the Hotel Astor, New York, to consider problems affecting the railroads. The conference was requested by Mr. Warfield.

The representatives of the organized employees present were Warren S. Stone, president of the Brotherhood of Locomotive Engineers; L. E. Sheppard, president of the Order of Railway Conductors; W. S. Carter, president of the Brotherhood of Locomotive Firemen and Enginemen; E. L. Cease, representing the Brotherhood of Railway Trainmen; W. H. Johnson, representing the shop crafts, and E. J. Mannion, of the Order of Railroad Telegraphers. The last two men were included in the conference at the request of Mr. Stone.

Following the announcement in the daily press that Mr. Warfield had asked for this conference with the heads of the "big four" brotherhoods, A. H. Smith, president of the New York Central, addressed a letter to Mr. Warfield stating that the board of directors of the New York Central had directed him to advise that the "board and the officers appointed by it represent the New York Central stockholders in all matters of management, including relations between the corporation and its employees." Copies of this letter were sent to the heads of the four brotherhoods. The letter follows:

The newspapers this morning print the letter dated the 30th instant addressed by you to the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen and Enginemen, the Brotherhood of Railway Trainmen, and the Order of Railway Conductors of America, in which you, as president of the Railroad Securities Owners Association, invite representatives of those brotherhoods to confer with a committee of your association for the purpose of considering what should be done in regard to wages and other matters affecting the railroads.

The board of directors of the New York Central Railroad Company has directed me to advise your association and you, as its president, that the board and the officers appointed by it represent the New York Central and its stockholders in all matters of management, including relations between the corporation and its employees, whether those relations have to do with wages, working conditions or practices. The board further directs me to say that it regards as most unfortunate the attempt which you, and the association of which you are president, are apparently making to intervene in the present labor situation, and that it cannot recognize any right or propriety in your doing so.

Copies of this letter have been sent to the chiefs of the four brotherhoods so that they may understand that neither you nor the Security Owners Association speaks for the New York Central or the companies which it controls in asking for the conference which you propose to hold.

The representatives of the employees at the conference made plain their attitude with reference to readjustments of deficits "at their sole expense, unaccompanied by comprehensive methods that will lead to general economies." The conference was held behind closed doors and no definite decision was reached.

It is understood that further conferences will be held and that in the meantime the association will endeavor to enlist support for the national service plan proposed by Mr. Warfield which was summarized in the *Railway Age* of March 25.

The joint statement issued at the close of the meeting by Mr. Warfield and Mr. Stone follows in part:

The discussion took a wide range and covered all phases of the railroad situation, including the present difficulties involving employees' relations.

The conference did not deal in detail with wages and working conditions, the committee of the Association having stated that, as expressed in their letter suggesting the conference, it was the purpose and desire of the Association to be helpful in the situation to bring about better relations.

There was full discussion of the procedure up to date and of the viewpoint of the employees' representatives. All the conferees recognized the gravity of the situation and an earnest effort was made to approach it through a common understanding of the public interest involved. It was realized that all parties in interest, the public, the investor and the employees, can accept as satisfactory no solution which is not based upon efficiency and general economy in service. The employees' representatives made plain their attitude toward the adjustment of deficits at their sole expense, unaccompanied by comprehensive methods that will lead to general economies.

After full consideration of the position of the representatives of the employees and of the possible basis for solution of the outstanding difficulties, the representatives of the Association of Security Owners feel convinced that a solution is practicable, and through proper co-operation between all the parties in interest and the governmental agencies charged with the responsibility in these matters there should be avoided any further substantial delay in adjusting a situation that if continued is recognized by the conferees as being destructive and impossible.

The discussion was earnest and free from any suggestion that would indicate any fundamental impasse, and it was distinctly recognized by the participants that differences in economic theories have no immediate bearing on the existing emergency and should not prevent its immediate consideration on the merits, and that questions of procedure should not be permitted to intensify the extreme peril now confronting American transportation.

With a thorough understanding of the views of the representatives of the railway employees the representatives of the security holders expressed the opinion that suggestions should be promptly developed that would make possible a tangible and constructive result.

An additional bulletin said:

After the meeting the members of the committee of the Security Owners Association expressed themselves as well pleased with the co-operative spirit shown by the other parties to the conference. Those representing the various organizations of labor said that they were greatly pleased with the manner in which they were approached by those representing the great investments in railroad properties.

All through the proceedings there was a decided recognition shown of the purposes of those concerned in the conference to assist in meeting the situation.

The Container Car Applied to L. C. L. Freight Handling

The container system of rail and motor truck transportation as applied to express matter was described in the *Railway Age* for February 4, page 315. A similar system applied to L.C.L. freight has now been put into operation on the New York Central between Chicago and Cleveland, Ohio, and is being extended to include other cities.

One of the Large Containers Loaded on a Motor Truck

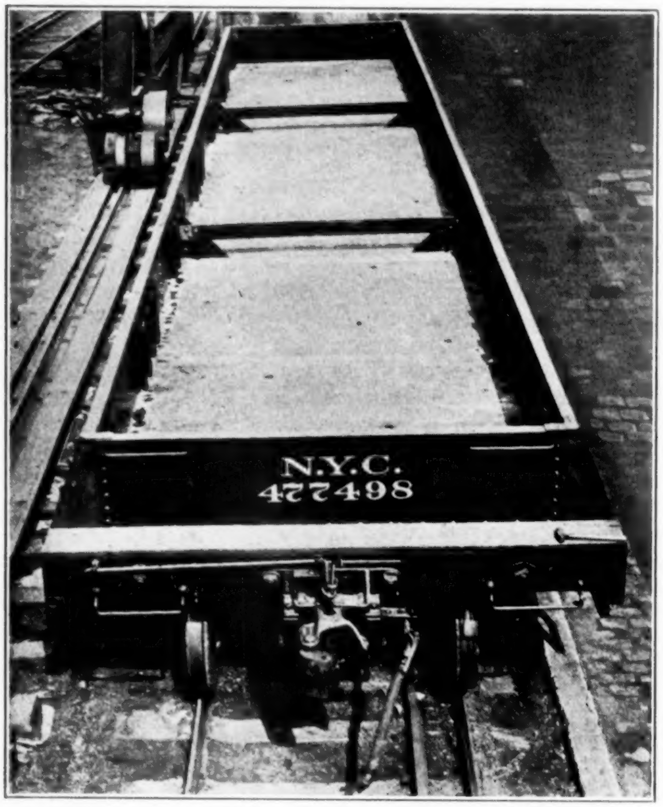
The type of equipment used for this service is shown in the illustrations of the complete car and the individual container. The car itself resembles a low side gondola, the only novel features being the guide at the side for holding the containers in place and the transverse steel plates extending across the car which are designed to prevent the doors being opened in case the car is not carrying its full complement of containers. Each of the three compartments of the car is capable of holding one large or two small containers, thus permitting various combinations of the two sizes. The large containers are 14 ft. long and have a capacity of 7,000 lb. while the small containers are 7 ft. long and hold 3,500 lb. The body of the container is of wood with a steel frame. At the four corners pressed steel guides are provided which engage with the members on the car body to hold the container in place. The roof is of steel and the doors of heavy wooden construction, fitted with refrigerator car door fixtures. Hooks are provided at the upper corners for lifting the containers with cranes.

The container system as applied to the transportation of less than carload lots of freight has the same advantages that are realized in express service. The labor of checking and handling at intermediate stations is eliminated; injury to the goods in transit will be negligible and theft will be done away with entirely. Increased utilization of the cars will also be secured due to the speed with which a load of containers can be removed or loaded. From the viewpoint of the shipper, the container system has important advantages in handling L.C.L. shipments. The individual packages may be stowed in the containers with cardboard or even paper wrappings as it is only necessary to protect them from the weight of the load within the container itself. There is no possibility of damage due to heavy shipments shifting

Car Loaded with Two Small and Two Large Freight Containers

against fragile materials and it is not necessary to provide costly wooden boxes or crates.

The container car for freight service was built by the Merchants Dispatch Transportation Company, East Rochester, N. Y., under the supervision of the New York Central. Plans are now being made for the handling of mail shipments between New York and Chicago in container cars of the express type, previously described.



Car Arranged for Carrying the L. C. L. Freight Containers

How Box Manufacturers Aid Claim Prevention

The drain on railway earnings resulting from freight claims not only is a menace to the solvency of the carriers but it also constitutes a reflection on the effectiveness of private management which the railroads must exert every effort to overcome. So serious is the problem that it behooves them to take advantage of any agency designed to further this end. For this reason railway officers should be interested in the efforts being made by one group of box manufacturers to promote better packing and crating as a part of a campaign for the sale of a particular type of containers to the shippers.

This organization, the Four-One Box Makers' Association, Chicago, comprises a group of manufacturers in all parts of the country licensed to make boxes and crates embodying the use of a patented construction, whereby a wooden frame, veneer sheathing and wire bands are used jointly to make a container of unusual strength. But this original invention covers only the basic idea. The extension of this principle to the construction of boxes and crates for a wide variety of commodities and various classes of service has led to intensive scientific investigation to determine just how this principle should be applied to obtain the desired results with each requirement. This work is being carried on at a laboratory at Rockaway, N. J., where this industry is expending $50,000 annually in experimental work. The director of this laboratory was formerly chief of the box testing section of the United States Forest Products Laboratory at Madison, Wis., and the work is conducted according to the established standards and practices for this form of investigation while the facilities of the laboratory include the revolving drum, compression and drop test.

One of the prime objects of the laboratory experimentation has been to provide the necessary data for the correct design and construction of the various forms of boxes and crates and with a view to this end the association has issued complete standard specifications for the design and construction of containers for a great variety of commodities. Another important result has been to demonstrate the necessity for the proper packing and closing of boxes constructed according to approved designs, and the association has directed much of its activities in educational propaganda to this end. The prime element in the strength of this particular type of box lies in the bands of wire which surround the package and resist the bursting stresses which result from almost any distortion accompanying severe usage. However, to be thoroughly effective these bands of wire must be properly united in closing the box and the association has taken particular pains to call this to the attention of the shippers. To insure the proper twisting of the wires, two forms of wire twisters are recommended, either of which will perform this operation quickly and thoroughly.

Using a Twister to Close and Seal a "Four-One" Box

One particular value of providing a neat, secure twist of the wires lies in the fact that it makes the package practically proof against concealed pilfering, since the package cannot be opened without breaking unless the wires are untwisted and it is next to impossible to refasten the wires without breaking them. Herein lies the opportunity for the railroads to co-operate in reducing loss and damage. Since security against breakage of the package in handling or tampering depends upon the wires being properly twisted, it is to the interest of the roads to insure that the boxes or crates have been properly closed when they are delivered at the freight house and also that the wires are examined whenever the packages are rehandled en route.

General News Department

The Western Railway Club at its meeting on April 18 will listen to a paper on Locomotive Terminal and Motive Power Management by L. G. Plant, associate editor of the Railway Review.

H. C. Chase, superintendent of telegraph of the Atchison, Topeka & Santa Fe, will present a paper on "Railroad Electrical Communication" before the Western Society of Engineers, Chicago, on April 21.

The Illinois Manufacturers' Association, on April 1, made a direct appeal to President Harding to reorganize the United States Railroad Labor Board in order that the public might be given hearings before that body. The Association had been denied by the Railroad Labor Board the opportunity of presenting the views of shippers on the question of national agreements and wages.

Thirty-three persons killed and as many more injured, was the total of casualties in a collision reported in press dispatches of April 4, as occurring between a freight and a passenger train on the Mexican National. The collision occurred at Villa Garta, between Parradon and Monterey. Fifteen were reported seriously injured in a derailment, on March 28, between Chihuahua City and Torreon, where a coach and a sleeping car were overturned.

New York Railroad Club Meeting

"Conditions on Foreign Railways" will be discussed at the meeting of the New York Railroad Club on Friday evening, April 15, at the Engineering Societies Building at 8 o'clock. The discussion will be opened by David Van Alstyne, of the American Locomotive Company, who recently returned from a seventeen months' trip around the world.

Signal Section—A. R. A.

The annual meeting of the Signal Section, American Railway Association, is to be held this year in the month of June, in accordance with the vote of the association following the action taken at the meeting held in New York City last December; and it is to be held at Hotel Drake, Chicago, on Monday, Tuesday and Wednesday, the 6th, 7th and 8th.

Another Deficit in February

Preliminary compilations of the returns of the railroads to the Interstate Commerce Commission are making a worse showing than that for January. For 195 roads, operating 229,000 miles, there was a net deficit of $7,601,000 as compared with a deficit of $14,509,000 for the same roads in 1920. The total operating revenues were $396,000,000, a decrease of 4.7 per cent, and total operating expenses were $376,000,000, a decrease of 7.3 per cent. The railroads of the Eastern district had a deficit of nearly $10,000,000. The Southern roads earned net $357,000 and the Western district had a deficit of nearly $2,000,000. The returns indicate that most of the decrease in earnings was attributable to the falling off of freight traffic. Passenger revenues show an increase.

Will Reduce Passenger Fares

The Alabama, Tennessee & Northern desires the Alabama Public Service Commission to authorize a reduction of 20 per cent in passenger fares, this being the amount of increase that was granted under the Transportation Act of 1920, last August. President John T. Cochrane in making this announcement says that the surest way to get back to pre-war conditions, and revive business, is for every one to do his part. All railroads need all the revenue they can get; and while, in the main, the advanced rates are a just charge and must necessarily be maintained to keep the railroads going, the increase has in some instances acted as an embargo on business. However, the A. T. & N. is a producing line, and nearly all of its freight business is handled in connection with other lines; and until the railroads in general are able to bring about material reductions in their expenses, no rates can be lowered. But this does not apply to passenger fares on the A. T. & N., and the company therefore has determined to do its part by making a start toward final adjustment.

Manager of Department of Transportation and Communication

James R. Bibbins, has resigned as supervising engineer of The Arnold Company, Chicago, to become manager of the Department of Transportation and Communication of the United States Chamber of Commerce at Washington, D. C., on April 1. He was ber of Commerce at Washington, D. C., on April 1. He was educated at Baltimore City College and the University of Michigan. After spending some time with the electric and railway utilities of Detroit, Mich., he entered the service of the Westinghouse Company, in whose employ he was promoted to commercial engineer. In this capacity he was engaged in economic research in the field of steam and gas power development. In 1909, Mr. Bibbins became associated with The Arnold Company at Chicago, and since that time has been in charge of numerous technical investigations and reports undertaken for state, municipal and other public bodies, and for various corporations. The activities of the Department of Transportation and Communication include shipping, both ocean and on inland waterways; steam and electric railroad transportation; air transportation; cables and telegraphs; postal facilities, and highways.

J. R. Bibbins

Air Brake Tests

On March 26 there was operated over the Radford division of the Norfolk & Western from Bluefield, W. Va., to Roanoke, Va., a train of seventy 100-ton cars equipped with the Automatic Straight Air brake. The total weight of the train, exclusive of the locomotive, was 9,148 tons, which is the heaviest tonnage ever handled down this particular division which contains grades of 1.6 per cent. The demonstration of the action of the brake on these heavy grades formed the conclusion of a series of tests of the new type of brake equipment as applied to the Norfolk & Western cars and was witnessed by a large number of representatives of railroads from all parts of the country.

For the purpose of making the test, the equipment was assembled in the yard at Bluefield. Here contact gages were attached to the first, twenty-seventh, fifty-third and seventieth cars and wires were run to the dynamometer car at the head end to give a record of the time elapsing between the development or release of the pressure for which the gages were set. Electric recording devices in the dynamometer car gave a continuous record of the position of the engineer's brake valve. Trainagraphs recording the pressures in the train pipe, auxiliary reservoir and

brake cylinder were applied on the first, fifteenth, forty-fifth, fifty-seventh, sixtieth and seventieth cars.

A series of standing tests was also made in the Bluefield yard on March 24 and 25. These were intended to develop the rate of serial action, rate of build-up in brake cylinder pressure and the operation of the various functions of the brake. During the course of the tests, service and emergency applications were made with all valves set first in quick release position, and later in graduated release. The results of these tests were registered on a chart in the dynamometer car and are not available at this time.

So many factors enter into a test of this sort and the records which were taken were so extensive and voluminous that it is obviously out of the question to publish any satisfactory report of the test at this time; we shall defer further comment until the official report from the railway is available.

Storekeepers' Annual Meeting

The Division of Purchases and Stores of the American Railway Association (Division VI) will hold a convention in Chicago, at the Hotel Blackstone, on Thursday, Friday and Saturday, June 9, 10 and 11.

General Secretary J. E. Fairbanks has issued a circular which says that the general committee of this Division, because of the financial stress and serious business conditions, has determined that it is necessary to defer the annual convention scheduled for Atlantic City. The Chicago meeting will be strictly for business. The sessions will convene at 10 a. m., city time. The general committee and standing committees will be in attendance. Members are requested to have such representatives of their supply departments attend as can conveniently do so. The meeting will consider Committee reports which are ready and will formulate a constructive plan for the future activities of the Division. The endeavor of the meeting will be to handle such subjects as will produce economy in the operations of the supply departments of the railroads.

Arrangements will be made to exhibit a series of motion pictures illustrative of the reclamation work on our railroads.

International Railway Association—Ninth Congress

The program for the ninth congress of the International Railway Association, which is to be held in Rome, Italy, from April 18 to May 1, 1922, was given in the *Railway Age* of June 18, 1920, page 1925, including the names of the "reporters" who are preparing papers, so far as these names could be given at that time.

From a list published in the Bulletin of the Association, for March, we are able to give the names which were left blank in the earlier announcement. The number of reporters from America altogether is thirteen. The additional names now announced, with subjects, are:

Construction of Roadbed and Track, C. H. Ewing (P. & R.).

Maintenance and Supervision of Track, Earl Stimson (B. & O.) and G. Barbieri, Italian State Railways.

Special Steels, W. C. Cushing (Penn.).

Passenger Cars, W. J. Tollerton (C. R. I. & P.),

Electric Traction, A. D. Donati, Italian State Railways.

Operation; Passenger Terminals, A. S. Baldwin (I. C.) and L. Maccallini, Italian State Railways.

Freight Stations, E. Ehrenfreund, Italian State Railways.

Slow-freight Traffic, W. H. Williams (D. & H.) and V. U. Lamalle, Belgian State Railways.

Locomotive Cab Signals, F. Villa, Italian State Railways (for all countries except France).

Calculation of Costs of Passenger Service and Freight Service; an officer of the Northern Pacific.

Interchange of Rolling Stock, C. W. Crawford, chairman of the General Committee of Division II (Transportation) American Railway Association.

Workmen's Dwellings, F. Lolli, Italian State Railways.

Types of Cars, Passenger and Freight, for Light Railways; C. Gaviraghi, Upper Valteline Railway, Tirano, Italy.

Mr. Weissenbruch, general secretary of the permanent commission of the association will make a special report on the wording of the statutes and the regulations of the association; and Sir Henry Fowler, Midland Railway of England, will present a discussion of the use of liquid fuel in locomotives.

Traffic News

The Transportation Club of Buffalo, N. Y., at its election for 1921, chose Kendall B. Hassard as president; J. M. Sells, first vice-president; Godfrey Morgan, second vice-president and Redmond J. Walsh, secretary.

The National Lumber Manufacturers, at the closing session of their convention at Chicago, on April 1, adopted a resolution requesting that the Interstate Commerce Commission and the railways be asked to suspend for 60 days, in the interest of new building, the latest freight rate advances on lumber.

The Peninsular Railway, operating between San Jose, Cal., and other towns in Santa Clara county, has been authorized by the Railroad Commission of California to discontinue the handling of freight in less than carload lots. Since 1916, inroads by auto truck lines upon the freight business of the company have resulted in a decrease of 83 per cent in the tonnage handled. Gross revenue has fallen off approximately 60 per cent and is still declining, according to the testimony of the company. The company will continue to move freight in carload lots.

Dock operators from the Northwest and mine operators from every district in the eastern soft coal fields, at a conference held at Cleveland, Ohio, on April 1, framed an appeal to the presidents of eight eastern railroads for readjustment of freight rates on coal to lower lake ports, in order to stimulate the movement of bituminous coal to the northwest. A difference of 58 cents a ton, as compared with the Illinois field, is given as the dominant reason why the shipment of coal from the eastern field to the northwest has been practically suspendeed.

Survey of Present Coal Stocks

The Geological Survey has undertaken a survey of the stocks of coal in the hands of consumers on April 1, the opening of the new coal year, for the purpose of a report to the Secretary of the Interior along the lines of the one made a year ago. It will cover public utilities, railroads, industrials and retail dealers. Production is down to the lowest point since April, 1914, and exact information is desired as to whether the consumption has fallen off or whether consumers are holding off buying and burning up their stocks as they did in 1919.

Production of soft coal continued to decline during the week ended March 26, according to the Geological Survey bulletin. The total output, including lignite and coal coked, is estimated at 6,412,000 net tons as against 6,506,000 during the week preceding.

President Willard, of the Baltimore & Ohio, has called on Judge McGee, formerly fuel administrator of Minnesota, for suggestions looking toward prevention this year of a repetition of last year's difficulties in supplying the fuel requirements of the Northwest. In a letter Mr. Willard, referring to the last half of 1920, said:

"I am very much afraid that we may have the same condition again unless steps are taken by those in authority or with influence to prevent such a recurrence.

"There is no doubt at all that the railroads of this country are quite able to carry within 12 months all the coal that can possibly be consumed in this country, or put over our tidewater docks for export, provided only the movement is somewhat uniform throughout the period, and I am just as certain that they cannot satisfactorily meet the transportation requirements in connection with the fuel program if the shipments are concentrated too greatly within a too limited period. * * * There are in the United States today more than 400,000 idle freight cars, and considerably over 100,000 of the number are open-top cars suitable for the movement of coal.

"There seems to be a growing fear that the movement of coal to the Northwest by lake will be again postponed or delayed, resulting in a condition later in the season similar to the one which existed a year ago; in which event shippers in other regions would very strongly oppose and resist any arrangement intended to give preference to the Northwest to the detriment of other regions."

Commission and Court News

Interstate Commerce Commission

The Commission has further suspended until May 19 the operation of certain schedules which provide for the cancellation of the commodity rates on mixed shipments of lithopone and zinc oxide.

The Commission has suspended until July 30, the operation of certain schedules which propose to increase the existing rates on grain and grain products from Missouri River points to points in Illinois.

The Commission has further suspended until May 28 the operation of a Cincinnati, New Orleans & Texas Pacific tariff providing for increased class and commodity rates between Ohio River crossings, etc., and Cumberland River landings.

The Commission has suspended from April 15 to August 13 the operation of a supplement to an Atchison, Topeka & Santa Fe tariff proposing to increase loading and unloading charges on live stock at stock yards at Fort Worth and Oklahoma City.

The Commission has further suspended until May 14, the operation of certain schedules which provide for the cancellation of rates on cement from points in Missouri and Kansas to Garfield, Avoca, Bentonville and other places on the St. Louis-San Francisco.

The commission has suspended from April 1 to July 30 the operation of certain schedules which propose to increase from 19 cents to 25 cents per 100 pounds the carload commodity rate on lumber from Memphis to Chattanooga, Tenn., and points taking same rates.

The Commission has further suspended until May 7 the operation of certain schedules shown in F. A. Leland's tariff, I. C. C. No. 1289 applicable on manufactured iron and steel articles carloads from Houston and Galveston, Texas, and intermediate points to destinations in Louisiana.

The Commission has suspended from April 1 to July 30, the operation of a proposed reduction from 60,000 lb. to 33,000 lb. in the carload minimum weight in connection with commodity rates on sugar from points in Colorado, Idaho, Kansas, Nebraska and Utah to destinations in Arkansas, Colorado, Iowa, Kansas, Louisiana, Missouri, Nebraska, New Mexico and Oklahoma.

The Commission has further suspended until May 10 the operation of certain schedules which provide increased class and commodity rates, the cancellation of commodity rates, errors in minimum weights, reference to tariffs for future rates, indices of station numbers and commodities, resulting in the application of erroneous rates, the operation of which was suspended until April 10.

The Commission has suspended from May 1 until August 29, the operation of a supplement to a Southern Pacific Atlantic Steamship Lines tariff, providing increased class and commodity rates from New York, N. Y., and points in Atlantic seaboard territory, to points in Louisiana and Mississippi purported to be established in conformity with order of the Commission in the Murfreesboro case.

The Commission has suspended from May 1 until August 29, 1921, the operation of a supplement to a Clyde Steamship Company tariff proposing changes in class and commodity rates from Eastern points to destinations in Mississippi, Alabama and Florida, via the Mallory Steamship Company through the Port of Mobile, Ala., and rail connections beyond, constructed on basis of established differentials under the rates applicable through the South Atlantic Ports, the latter being now under suspension in Investigation and Suspension Docket No. 1303.

The Commission has further suspended until May 14 the operation of certain schedules providing class and commodity rates, purporting to be established in conformity with order of the Commission in Docket No. 9190, 55 I. C. C., 648, from Ohio and Mississippi river crossings and related points to Nashville and other points generally in southeastern territory, and from Chattanooga, Tenn., Montgomery and Birmingham, Ala., and other points generally in southeastern territory, to Nashville, Tenn., Ohio and Mississippi river crossings and points related thereto, the operation of which was suspended to April 14 by an order previously entered.

The Commission has suspended from April 6 until August 4 the operation of schedules providing that where no through published rates are in effect from point of origin to final destination, the proportional rates on petroleum and petroleum products will apply without deduction in constructing combination rates on all shipments originating beyond or destined beyond the points from or to which the proportional rates are applicable, whereas at present, rates 2½ cents less than rates published in tariff are applicable on shipments originating at points north of the Ohio river or west of the Mississippi river or in the state of West Virginia from which no through rates are in effect.

The Interstate Commerce Commission has rendered a decision finding the rates on coal from the head of the lakes to various points in the states of Minnesota, North Dakota and South Dakota unreasonable and unduly prejudicial and has prescribed a distance scale of rates which it declares will be reasonable for the future. The case results largely from discriminations involving the application of state rates put into effect by state authorities, as a result of which some of the roads published separate lines of rates applicable respectively to interstate and intrastate traffic. The commission's order in many cases will result in increases in rates held down by the state rates.

The Commission has suspended until July 30 the operation of certain proposed changes in the application of proportional rates on lumber and other forest products from Minneapolis, St. Paul, Minnesota Transfer, Cologne and Hills, Minn., Sioux Falls, S. D., and Council Bluffs and Sioux City, Iowa, on traffic originating west of the Montana-Dakota state line to points in C. F. A. and Western Trunk line territories. This proposed change would cancel the provision requiring surrender of inbound freight bills in order to secure the benefit of proportional rates outbound. On shipments stored at points named and subsequently reshipped the rate to apply would be that in force at date of reshipment.

Changes in State Rates Allowed

The Interstate Commerce Commission has found a method to prevent some of the so-called "freezing" of intrastate rates, as a result of its orders ordering the railroads to increase intrastate rates by the amount of the increases applied to interstate traffic, by issuing supplemental orders in the various state rate cases providing as follows:

"*It is further ordered,* That nothing in this order shall be construed as requiring any common carrier to establish or maintain any rate or charge for the transportation of passengers or property in intrastate commerce which is greater than its corresponding charge applicable to transportation in interstate commerce from, to, or at the same points in effect on March 8, 1921, or greater than its corresponding charge contemporaneously in effect and applicable to interstate commerce."

One of the principal arguments made by the state commissions is that the federal commission's orders in the state cases were effective until further notice and this they claimed made it impossible to change a local rate without appeal to the Interstate Commerce Commission. The supplemental orders will relieve one source of difficulty in this respect.

State Commissions

The Public Service Commission of Alabama announces that any citizen of the State may have his freight bills audited and checked by the commission and, if overcharges are shown, the commission will order the railroad or express company to refund the amount and to pay the costs of auditing the account. This service is authorized by special statute and the announcement virtually makes the commission a "traffic bureau" for the whole State.

Foreign Railway News

England's Exports of Railway Material

LONDON.

According to the Board of Trade returns, the exports of railway material for the month of January, 1921, were as follows:

	January 1921	January 1920
Locomotives	$2,189,712	$1,304,588
Rails	1,819,548	787,812
Passenger cars	425,772	625,488
Tires and axles	626,460	489,332
Wheels and axles	996,456	669,788
Chairs and metal ties	811,612	63,776
Miscellaneous track material	902,588	742,808
Total track material	5,513,572	2,403,720

The weight of the rails exported was 17,953 tons as against 6,707 tons for January, 1920. The value of the exports shown above is converted to dollars and the prevailing rate of exchange.

January Exports of Track Materials

During the month of January 4,630,222 lb. of track spikes, valued at $251,926, were exported. There were also 59,739 tons of rails, valued at $3,906,441, and switches, frogs, splice bars, etc., valued at $1,161,126, shipped from American ports. These totals all show a marked improvement over similar totals for December. Cuba received more of this equipment than any other country. The detailed figures by countries, as compiled by the Bureau of Foreign and Domestic Commerce, are as follows:

	Spikes		Steel rails		Switches, frogs, splice bars, etc.
	Pounds	Dollars	Tons	Dollars	
Azores and Madeira Is.	....	....	12	$702	$15
Belgium	....	....	1,103	73,801	26,788
Denmark	....	....	153	9,383	....
Finland	13,200	$836	275	19,323	5,274
France	....	....	365	16,401	....
Italy	....	....	38	2,837	....
Malta, Gozo and Cyprus Is.	....	....	30	2,457	....
Netherlands	....	....	549	38,033	....
Norway	10,500	369	358	24,367	18,518
Roumania	....	....	162	9,266	942
Spain	130	10	1,379	92,021	18,944
Sweden	9,200	409	852	59,751	8,968
England	2,000	92	500	39,608	6,317
Scotland	....	....	995	64,967	40,175
Ireland	....	....	188	11,802	4,332
British Honduras	420	15	....	....	....
Canada	75,067	3,841	3,189	176,529	20,039
Costa Rica	....	....	....	....	2,174
Guatemala	....	....	57	3,088	10,727
Honduras	91,200	4,091	1,056	69,829	12,601
Nicaragua	80,000	3,615	....	....	....
Panama	....	....	....	....	10,752
Salvador	4,000	243	....	....	3,936
Mexico	318,864	15,381	745	48,858	35,369
Newfoundland and Labrador	14,800	539	180	13,633	5,048
Jamaica	17,300	1,362	109	7,775	11,700
Trinidad and Tobago	3,590	297	30	2,501	557
Other British West Indies	500	76	....	....	....
Cuba	1,456,851	64,414	8,539	536,296	186,484
Virgin Is. of U. S.	200	15	....	....	357
Dutch West Indies	11,780	1,251	....	....	....
French West Indies	....	....	....	....	120
Haiti	....	....	....	....	75
Dominican Republic	122,248	5,370	2,399	160,473	59,438
Argentina	89,828	6,256	3,375	229,456	22,818
Brazil	568,066	27,192	9,707	664,333	125,439
Chile	105,821	4,485	1,376	99,067	36,528
Colombia	46,710	2,907	1,774	118,171	33,710
Ecuador	49,630	2,613	24	2,000	1,170
British Guiana	....	....	....	....	4,467
Paraguay	....	....	212	12,176	....
Peru	146,700	7,980	467	31,654	25,190
Uruguay	....	....	....	....	2,924
Venezuela	3,744	240	265	18,009	36,733
China	18,270	765	5,715	149,538	17,704
Kwantung, leased territory	....	....	....	....	40,017
British India	7,600	627	717	45,821	10,550
Straits Settlements	....	....	99	6,268	308
Other British East Indies	....	....	24	1,871	104
Dutch East Indies	997,461	75,843	4,430	321,350	64,331
Japan	148,560	10,457	4,596	288,653	144,983
Siam	....	....	1,089	74,896	346
Australia	....	....	....	....	248
New Zealand	....	....	389	25,249	854
Philippine Islands	148,000	7,775	677	45,800	38,183
British South Africa	....	....	173	11,467	3,905
Portuguese Africa	67,982	2,560	1,367	76,961	60,964
Total	4,630,222	$251,926	59,739	$3,906,441	$1,161,126

Equipment and Supplies

Car Deliveries in February

The number of freight cars delivered in February by the 25 car building companies reporting to the Railway Car Manufacturers' Association, totaled 6,276 for domestic service and 500 for export. The passenger cars delivered totaled 50 for domestic service and 14 for foreign service. On February 28 the companies had on hand undelivered orders for 26,685 freight and 750 passenger cars for domestic service and 3,225 freight and 28 passenger cars for export.

The figures for the month are as follows:

New Cars Delivered

	Domestic	Foreign
Freight	6,276	500
Passenger	50	14

On Order and Undelivered

			Total
Freight	26,685	3,225	29,910
Passenger	750	28	778

Car Repairs

Delivered—February	4,499
On order and undelivered February 28	18,303

Locomotives

The PEKIN-MUKDEN has ordered 19 locomotives from English builders.

The F. C. DEL SUR, of Colombia (South America), has ordered 2, 2-6-6-2 type locomotives from the Baldwin Locomotive Works.

The F. C. DEL NORTE, of Colombia (South America), has ordered 2, 2-6-0 type locomotives from the Baldwin Locomotive works.

The LAURENTIDE COMPANY, Ltd., Grande Mer, Quebec, has ordered 1, 2-6-2 type locomotive from the Montreal Locomotive Works.

The ATCHISON, TOPEKA & SANTA FE, reported in the *Railway Age* of March 4, as inquiring for 10 Pacific, 15 Mikado, 15 Mountain and 10 Santa Fe type locomotives, has ordered this equipment from the Baldwin Locomotive Works.

Freight Cars

The NEW YORK, ONTARIO & WESTERN is inquiring for from 12 to 15 caboose cars.

The GREAT NORTHERN is inquiring for 500 60-ton refrigerator cars, 40 ft. in length, with wooden underframe, metal draft arms and steel roof.

The UNITED FRUIT COMPANY, New York, reported in the *Railway Age* of March 18 as inquiring for 50 all steel ballast cars for the Pruxillo Railroad, Honduras, has ordered this equipment from the Magor Car Company.

Passenger Cars

THE SOUTH AFRICAN RAILWAYS are inquiring through the car builders for 26 first class and 26 third class electric motor coaches.

The NEW YORK, NEW HAVEN & HARTFORD, reported in the *Railway Age* of October 15, 1920, as inquiring for 8 steel motor cars and 14 trailer cars, has ordered this equipment from the Standard Steel Car Company.

Iron and Steel

The DELAWARE, LACKAWANNA & WESTERN has ordered 390 tons of fabricated bridge material from the Shoemaker & Satterthwait Bridge Company.

The Pekin-Mukden has ordered 12,000 tons of rails from English manufacturers.

The South Manchurian Railway Company has ordered 10,000 tons of rails from the United States Steel Products Company. The rails will be rolled in the works of the Tennessee Coal & Iron Company.

Machinery and Tools

The Florida East Coast has bought a 150-ton wrecking crane mounted on 6-wheel trucks, from the Industrial Works, Bay City, Mich.

Miscellaneous

The Delaware, Lackawanna & Western is asking for bids until noon April 11, for a type 0 turntable center.

The New York, Susquehanna & Western is asking for bids until 12 o'clock noon, April 14, 1921, for 77,100 gross tons anthracite coal for use during the period ending April 1, 1922.

The New York Central and subsidiary lines are asking for bids until 12 o'clock noon, April 19, for the requirements of said companies for one year commencing April 1, 1921, of incandescent lamp bulbs, aggregating in excess of $300,000 in new value.

The Erie Railroad is asking for separate bids until 12 o'clock noon, April 14, 1921, for from 1,000,000 to 1,200,000 net tons bituminous coal; also for from 150,000 to 200,000 net tons of bituminous coal and for 138,600 gross tons anthracite coal, all for use during the period ending April 1, 1922.

Signaling

Atchison, Topeka & Santa Fe.—This company will install automatic block signals between Las Vegas and Sands, N. M., a distance of 33 miles, at a cost of $150,000.

The Richmond, Fredericksburg & Potomac has awarded a contract to the Union Switch & Signal Company, Swissvale, Pa., for the installation of an electro-pneumatic interlocking plant at Seminary, Va., to use alternating current for both track circuits and functional control. The machine will have a 39-lever frame and a spotlight track model.

Railway Construction

American Niagara Railroad Corporation.—This company, which was recently incorporated, proposes to build a line from the New York Central near its junction with the Lehigh Valley at Tonawanda, N. Y., to connect with the proposed railroad and bridge of the Canadian Niagara Bridge Company which has been organized under an act of the Canadian Parliament.

Chicago Union Station.—This company, which was announced in the *Railway Age* of April 1 (page 864), as accepting bids for the construction of a new railway mail terminal, Chicago, will close bids for this work on Monday, April 11. The company will shortly accept bids for the construction of a viaduct on Harrison street between Canal street and the Chicago River, Chicago.

Grand Trunk.—This company contemplates improving its yard facilities at Pontiac, Mich.

Texas & Pacific.—This company, in co-operation with the International & Great Northern, will construct a new union station at Longview, Tex., in accordance with a recent order of the Texas State Commission.

A Recent Report of Commercial Attaché Cunningham, of Madrid, on the exportation of automobiles from Spain shows that during the year 1919 the exportations amounted to 58, as compared with 26 in the previous year. During 1915, 1916, and 1917 the exportations amounted to 42, 29, and 43, respectively. Ceuta and Cuba are the chief desinations of the exports.—*Commerce Reports.*

Supply Trade News

W. H. Holdorf has been appointed railroad representative of the **Western Electric Company,** with headquarters at St. Paul, Minn., succeeding **A. L. Frankenberger.**

The General Railway Signal Company, Rochester, N. Y., will, on May 1, remove its New York office from 30 Church street to the Canadian Pacific building, 342 Madison avenue.

H. C. Brown, assistant general sales manager of the **Chicago Bridge & Iron Company,** with headquarters at Chicago, has been transferred to the New York City office of the company, effective March 15.

The Standard Paint Company on April 1 changed its corporate title to the **Ruberoid Company.** There will be no change in the management or policy of the company, whose general offices will remain at 95 Madison avenue, New York.

William H. Bassett has been appointed special railroad representative in charge of railroad sales and development work of the **Elliott-Fisher Company,** Harrisburg, Pa. Mr. Bassett has been engaged during the past 15 years in accounting organization work and in mechanical accounting sales and organization work. He became associated with the Delaware, Lackawanna & Western in 1909 in the accounting department and during a period of six years made an intensive study of railroad accounting and statistical problems, particularly as to the mechanical accounting devices best suited to the requirements of general offices and freight stations. Some large installations of mechanical equipment were evolved and carried to a successful conclusion under his direct supervision, with resultant economies and increased efficiency. In April, 1915, Mr. Bassett went to the Powers Accounting Machine Company, New York, as metropolitan district manager. He later became assistant general manager, and for the past two years has been general sales manager, which position he resigned April 1 to become special railroad representative of the Elliott-Fisher Company.

W. H. Bassett

Charles M. Chamberlin, secretary and director of **A. M. Castle & Co.,** Chicago, for the past 20 years, retired from all active business associations on April 1. **Fred C. Conners** has been elected a director and secretary to succeed Mr. Chamberlin.

The Pressed Steel Car Company, Pittsburgh, Pa., will remove its New York City office on May 1, from 24 Broad street, to the Seaboard National Bank building, corner of Broad and Beaver streets. The stockholders of this company at a recent meeting ratified an increase of capitalization from $25,000,000 to $50,000,000.

Wallace W. Glosser, of the Maintenance Equipment Company, Chicago, has been appointed district sales manager of the **Verona Tool Works,** with headquarters at New York City, effective April 1. **W. C. Dawkins,** who has been associated with the Verona Tool Works for some time, has been appointed assistant district sales manager at New York.

Robert B. M. Wilson, sales engineer in the Indiana district for the **Conveyors Corporation of America,** Chicago, has been appointed sales engineer of the Chicago district and **E. W. Wolfe,** who has been for several years with the company in a sales capacity, becomes an assistant to Mr. Wilson, with headquarters in the corporation's main office at 326 West Madison street.

A. P. Van Schaick has been appointed general manager of sales of the **Page Steel and Wire Company,** New York, succeeding E. C. Sattley, resigned. **W. T. Kyle** has been appointed assistant general manager of sales. The headquarters of both Mr. Van Schaick and Mr. Kyle will be at the Grand Central Terminal, New York. The appointments were effective March 31.

A. E. Lee, general freight agent on the Chicago & Alton, has been appointed general sales manager for the **Union Fuel Company,** with headquarters at Chicago, and **George W. Hatch,** general sales manager, with headquarters at Springfield, Ill. The Chicago offices of the company have been moved to 123 W. Madison street, while the Springfield offices are in the Reisch building.

Ralph G. Coburn, president of the Stone Franklin Company, New York, has been elected also a vice-president of the **Elvin Mechanical Stoker Company** with headquarters at 50 Church street, New York, and **E. W. Englebright,** who became associated with the Elvin Mechanical Stoker Company in December, 1920, has also been elected a vice-president of that company. Mr. Coburn was born in Boston in 1882 and was graduated from Harvard in 1904. He then served, until 1909, with the American Glue Company in charge of its western territory, with headquarters at Des Moines, Iowa, and Chicago. On May 1, 1909, he opened the Chicago office of the Franklin Railway Supply Company as resident sales manager and in June, 1911, was appointed assistant to the vice-president in charge of eastern-southern territory, with headquarters at New York. In December, 1913, he was appointed eastern sales manager of the same company. In May, 1919, the Stone Franklin Company, New York, was organized to market the Stone Franklin car lighting system in the United States and Canada and Mr. Coburn was elected president of the new company, which position he still retains in addition to his new duties as vice-president of the Elvin Mechanical Stoker Company.

R. G. Coburn

William T. Lane, district manager of the Pacific Coast territory of the **Franklin Railway Supply Company, Inc.,** New York, has been transferred from San Francisco to Cleveland, Ohio, as district manager of the Cleveland territory, and James McLaughlin, assistant to the vice-president at Chicago, has been transferred to San Francisco as district manager of the Pacific Coast territory to succeed Mr. Lane.

Haskell & Barker Car Co., Inc.

The annual report of the Haskell & Barker Car Company, Inc., for the fiscal year ended January 31, 1921, shows net profits after deducting charges and estimated federal taxes of $2,278,319, equivalent to 20.71 per cent on the $11,000,000 capital stock, compared with $1,727,653, or 18.51 per cent, on $9,332,000 capital stock in 1919. Gross earnings increased chiefly as the result of estimating federal taxes at $700,000, compared with $1,100,000 in the preceding year. The capital stock account was readjusted and a corresponding increase made in the property account. The financial statements follow:

INCOME ACCOUNT

	1920-21	1919-20
Gross earnings	$3,789,390	$3,743,131
Maintenance, etc.	511,070	534,185
Amortization	....	81,293
Net earnings	$3,278,319	$3,127,653
Reserves	300,000	300,000
Dividends	880,000	880,000
Surplus	$2,098,319	$1,947,653

BALANCE SHEET—ASSETS

	Jan. 21, 1921	Jan. 31, 1920
Plant, etc.	$7,266,127	$5,307,708
Cash	1,275,553	8,224,276
Accounts receivable	3,891,507	573,256
Liberty bonds	47,400	57,300
Other securities	394,586	713,553
U. S. contract	....	19,648,600
Inventories	6,608,167	1,850,967
Total assets	$19,483,342	$36,375,662

LIABILITIES

Capital stock	$11,000,000	$9,332,000
Current liabilities	2,123,403	728,623
Reserves	1,181,981	954,541
Surplus	5,177,957	4,149,292
U. S. contract	....	21,211,204
Total liabilities	$19,483,341	$36,375,662

The Westinghouse Air Brake Company

The financial results of the operations of the Westinghouse Air Brake Company for 1920, after providing for dividends, show a net addition to surplus of $1,249,122. H. H. Westinghouse, chairman of the board, in his report to the stockholders for the year ended December 31, 1920, said:

"During the year under review the volume of orders received and product shipped was satisfactory. The year closed with a fair amount of unfilled orders on hand, but owing to the unprecedented condition of the railroads of the country and their necessary policy of curtailing purchases, current orders show a marked falling off as compared with the same period of previous years. Manufacturing operations thus far this year have been at an almost normal rate, but obviously they must be materially reduced unless there is a marked increase in new business.

"The increase in accounts and bills payable for the year of approximately $8,300,000 as compared with the previous year, is accounted for by the increase in accounts and bills receivable of almost $8,000,000 and $2,800,000 in inventory.

"It is hoped that the remedial legislation recently enacted by Congress, known as the Winslow Bill, will result in payments that will reduce outstanding accounts to normal proportions."

The financial statements for the year include the operations of the following companies: Westinghouse Traction Brake Company, Westinghouse Friction Draft Gear Company, Westinghouse Pacific Coast Brake Company, Westinghouse Air Brake Home Building Company, Union Switch & Signal Company, Union Signal Construction Company, the American Brake Company, National Brake & Electric Company, National Steel Foundries, Milwaukee Locomotive Manufacturing Company, Safety Car Devices Company, Locomotive Stoker Company, National Utilities Corporation and Westinghouse Union Battery Company.

The consolidated balance sheet for 1920 follows:

ASSETS

Cash		$2,947,664
Accounts and bills receivable		13,550,169
Liberty Loan bonds		1,961,399
Inventories		15,628,812
Investments		8,734,348
Factories		11,232,271
Real estate, other than factories		2,161,679
Patents and goodwill		4,941,040
Deferred charges to operation		233,534
		$61,390,916

LIABILITIES

Bills payable		$7,210,000
Accounts payable		2,187,909
Taxes, royalties, etc., accrued, not yet due		156,135
Contingent liabilities on account of sales, subject to future settlements		150,027
Estimated federal taxes for 1920 and prior years		1,653,886
Sundry reserves (including amount held against patent and goodwill account)		4,726,321
Capital stock, at par, of subsidiary companies not held by the Westinghouse Air Brake Company		38,708
Capital stock, issued	$29,165,800	
Less held in treasury	38,450	
		29,127,350
Surplus		16,140,580
		$61,390,916

Railway Financial News

ATCHISON, TOPEKA & SANTA FE.—*Authorized to operate line in Oklahoma.*—The Interstate Commerce Commission has issued a certificate authorizing this company to operate the property of the Buffalo Northwestern, including 52½ miles of line in Oklahoma, which the Santa Fe has leased.

BALTIMORE & OHIO.—*Authorized to Issue Bonds.*—The Interstate Commerce Commission has authorized this company to issue $2,782,000 of refunding and general mortgage bonds, to pledge and repledge from time to time all or any part of the bonds as security for short term notes, and various subsidiaries have been authorized to issue various bonds and deliver them upon the order of the Baltimore & Ohio to trustees under certain mortgages.

BERGEN COUNTY.—*Authorized to Extend Maturity of Bonds.*—This company has been authorized by the Interstate Commerce Commission to enter into extension supplements with the holders of $200,000 of first mortgage bonds, extending the maturity date from April 1, 1921, to April 1, 1931, and increasing the rate of interest from 5 to 7 per cent.

CHICAGO GREAT WESTERN.—Annual Report.—The annual report for the year ended December 31, 1920, shows a deficit after taxes and charges of $2,530,682. This compares with net income in 1919 of $1,263,669 equivalent to $2.87 a share earned on the $43,926,602 preferred stock.

The income account for the year 1920 follows:

Two months ended February 29, 1920, under federal control:		
Balance after expenses		$471,653
Six months ended August 31, under guaranty period:		
Net deficit from railway operation	$3,406,271	
Compensation under transportation act	1,700,000	
Other income	69,328	
Deficit		1,636,943
Four months ended December 31, 1920:		
Net income from railway operation	214,724	
Other income	81,613	
Total income		296,337
Deficit		$868,953
Interest and other deductions		1,661,729
Total deficit		$2,530,682

The operating revenues and expenses in detail and the principal traffic statistics of the Chicago Great Western Railroad compare as follows:

	1920	1919
OPERATING REVENUES		
Freight	$15,990,231	$14,555,496
Passenger	5,692,494	5,979,147
Mail and express	1,309,885	687,359
Miscellaneous	603,581	906,187
Total	$23,596,191	$22,128,189
OPERATING EXPENSES		
Maintenance of way	$5,987,678	$3,525,827
Maintenance of equipment	6,736,579	5,010,519
Traffic	520,661	320,950
Transportation	12,258,484	9,745,333
Miscellaneous	955,871	711,197
Transportation for investment—credit	7,030	8,663
Total	$26,452,243	$19,305,163
TRAFFIC STATISTICS		
Tons revenue freight carried	6,067,713	5,962,507
Tons carried 1 mile	1,663,983,000	1,640,093,000
Revenue per ton per mile	0.961 cents	0.887 cents
Number passengers carried	2,498,822	2,714,422
Number passengers carried 1 mile	190,126,076	221,637,486
Revenue per passenger per mile	2.994 cents	2.698 cents

The annual report of the Chicago Great Western will be reviewed editorially in an early issue.

CHICAGO JUNCTION RAILWAY.—Hearings on acquisition by *New York Central.* See New York Central.

CHICAGO, MILWAUKEE & ST. PAUL.—*Asks Authority to Acquire Road.*—This company has applied to the Interstate Commerce Commission for authority to acquire the property and stock of the Chicago, Terre Haute & Southeastern.

CHICAGO & EASTERN ILLINOIS.—*Reorganization Plan.*—Kuhn, Loeb & Co., reorganization managers, have announced the details for the organization of a new company capitalized at $91,033,750. The capitalization of the old company, exclusive of unpaid interest, was $94,204,448. Fixed charges of the old company were $3,759,996, while those of the new company will be $2,327,051.

According to the announcement the new company will not acquire the coal properties formerly embraced in the mortgage dated February 1, 1912, made to secure the purchase money first lien coal bonds of the Chicago & Eastern Illinois Railroad Company, nor the lines of railroad formerly owned by the Evansville & Indianapolis Railroad Company, which have been sold under foreclosure of the respective mortgages thereon, nor the lines of railroad formerly owned by the Chicago & Indiana Coal Railway Company. In case delay should occur in acquiring any of the mortgaged lines of railroad or any of the property embraced in the plan, the execution of the plan will not necessarily be thereby postponed, but existing bonds upon such lines deposited under the plan may be pledged under the mortgages of the new company until such lines of railroad shall be acquired by the new company.

New securities to be presently issued include $35,500,000 general mortgage bonds, $22,051,050 preferred stock and $24,135,100 common stock. Prior lien mortgage bonds amounting to $5,262,500 will be used as collateral for notes amounting to $4,210,000 covering indebtedness to the United States. The general mortgage bonds will be limited to the total authorized principal amount of $35,500,000 at any one time outstanding. They will mature not later than 1951, and will bear interest from May 1, 1921, payable semi-annually, at the rate of 5 per cent per annum. They will be secured by mortgage which will embrace all of the lines of railroad, franchises, equipment, terminals, securities and other property which may at any time be included under the prior lien mortgage. The general mortgage will be subject to the prior lien mortgage on all property covered by the latter. The preferred stock will be at the rate of 6 per cent per annum, cumulative after January 1, 1924. Each share of preferred stock shall have the same voting rights as a share of common stock.

Securities to remain undisturbed in the reorganization amount to $9,347,600, and include Chicago & Eastern Illinois Railroad Company first extension mortgage 6 per cent bonds due 1931, $91,000; Chicago & Eastern Illinois Railroad Company first consolidated mortgage 6 per cent bonds due 1934, $2,736,000; Evansville Belt Railway Company first mortgage 5 per cent bonds due 1940, $142,000; Chicago & Eastern Illinois Railroad Company equipment certificates, Series "H," 5½ per cent maturing serially from September 1, 1921, to September 1, 1925, $1,477,000: receiver's equipment notes to Director General of Railroads maturing serially to 1935, $691,600; loan from United States Government, 10 years 6 per cent, $3,425,000; loan from United States Government, 15 years 6 per cent, $785,000.

Cash requirements estimated to carry out the plan amount to $16,110,370, and include $6,000,000 as payment of receiver's certificates; $3,000,000 for payment of Evansville & Terre Haute first consolidated mortgage 6 per cent bonds maturing July 1, 1921; $4,003,292 on account of $3,478,909 C. & E. I. general consolidated and first mortgage 5 per cent bonds, and $524,383 Evansville & Terre Haute first general mortgage 5 per cent bonds, and $3,107,078 to pay other claims of receiver.

The cash required will be provided as follows: $10,300,000 available in the hands of the receiver and $5,810,370 from the sale of 5 per cent general mortgage bonds of the new company to stockholders of the old company or underwriters.

The report of the receivers made to the reorganization managers shows that the average annual net railway operating income, under normal conditions and after the segregation of the Chicago & Indiana Coal Railway, can be conservatively estimated at $5,300,000, and net railway operating income for the year ending December 31, 1921, estimated at approximately $4,100,000, such estimate being predicated on a gradual resumption of business during the year. The last half of the year normally produces approximately two-thirds of the year's earnings.

The capitalization and fixed charges of the new company are as follows:

Outstanding		Fixed Charges
$2,736,000	C. & E. I. first consolidated 6s	$164,160
91,000	C. & E. I. first extension 6s	5,460
142,000	Evansville Belt Ry. 5s	7,100
1,477,000	C. & E. I. equipment notes, Series H 5½s	81,235
691,600	Equipment notes to director general 6s	41,496
4,210,000	Notes secured by $5,262,500 prior lien mortgage 6s	252,600
35,500,000	General mortgage 5s	1,775,000
22,051,050	Preferred stock	
24,135,100	Common stock	
$91,033,750		$2,327,051

Capitalization of old company (exclusive of unpaid interest)	$94,204,448
Capitalization of new company	91,033,750
Fixed charges of old company	$3,759,996
Fixed charges of new company	2,327,051

The lines of railroad formerly owned by Chicago & Indiana Coal Railway Company, and Evansville & Indianapolis Railroad, and the coal properties formerly embraced in the purchase money first lien coal mortgage will not be acquired by the new company.

Foreclosure Sale.—The Chicago & Eastern Illinois, in the hands of receivers since May 27, 1913, was sold at foreclosure on April 5, at Danville, Ill.

George M. Murray and Joseph P. Cotter, attorneys of New York, representing Kuhn, Loeb & Co., bid in all parcels except Parcel D, extending from Momence, Ill., to Brazil, Ind., for $13,285,000. There were no bids on Parcel D, and another sale date was fixed.

CHICAGO & NORTH WESTERN.—*Bonds to Be Paid.*—The $10,000,000 30-year 5 per cent debentures, due April 15, 1921, will be

paid upon presentation on and after that date at the office of the company, 111 Broadway, New York City.

DENVER & RIO GRANDE.—*Stockholders' Protective Committee to Push Suit.*—The protective committee has received the text of the decision of the federal court at Denver on the motion of Western Pacific interests to dismiss two suits attacking the legality of the judgment to satisfy which the road was sold recently. Two suits were filed identical in text, the committee says, and one was dismissed Saturday. The court held that the stockholders had the right to prosecute the other suit, and the court would grant leave to amend the bill in that case to bring in additional or supplementary matter relating to the confirmation of the sale.

EUREKA NEVADA.—*Expiration of Lease.*—This railway operated under lease by the Nevada Transportation Company since May 8, 1912, will, after March 31, 1921, be operated by the Eureka Nevada Railway Company, the lease having expired.

FONDA, JOHNSTOWN & GLOVERSVILLE.—*Bonds Extended.*—The $200,000 6 per cent bonds which fell due April 1, were extended until March 29, 1922, with interest at 6 per cent.

GEORGIA & FLORIDA.—*Loan Approved by Commission.*—The Interstate Commerce Commission has authorized a loan of $800,000 to this company to assist it in meeting maturing indebtedness and paying for additions and betterments. This loan is for three years.

GOLDEN BELT.—*Certificate of public convenience denied.*—The Interstate Commerce Commission has denied this company's application for certificate of public convenience and necessity for the construction of a new line of railroad between Great Bend and Hays, Kan., on the ground that the record does not develop an economic justification for the proposed line nor indicate reasonable prospect of a substantial return on the estimated investment.

HOUSTON & BRAZOS VALLEY.—*Board reports just compensation.*—The board of referees appointed by the Interstate Commerce Commission has rendered a report to the President finding this company entitled to just compensation for the period of federal control in the amount of $65,368.05. The company had claimed $144,343 and had failed to agree with the Railroad Administration.

LOUISVILLE & NASHVILLE.—*New Directors.*—J. R. Kenly and Frederic W. Scott have been elected directors to succeed Warren Delano and M. H. Smith.

MARSHALL & EAST TEXAS.—*Certificate of public convenience held unnecessary.*—The Interstate Commerce Commission has rendered a decision that this company having ceased operation under order of a federal court prior to the passage of the transportation act, the issuance of a certificate of public convenience and necessity applied for by the receiver to permit the abandonment of the line is not within the commission's jurisdiction and is not required.

MINNEAPOLIS & ST. LOUIS.—*Authorized to Issue Bonds.*—This company has been authorized by the Interstate Commerce Commission to issue $1,382,000 of refunding and extension mortgage 5 per cent gold bonds and to pledge them with the Secretary of the Treasury as partial security for a loan.

NEW YORK CENTRAL.—*Hearings on Acquisition of Chicago Junction Railway.*—Hearings were begun on April 5 at the Great Northern Hotel, Chicago, before W. H. Colston, director of the department of finance of the Interstate Commerce Commission, upon the application of the New York Central for authority to acquire the terminal properties of the Chicago Junction Railway and the Chicago River & Indiana Railroad. A. H. Smith, president of the New York Central, has made the following statement concerning the application:

The plan proposed in the application will, of course, continue wholly tentative until the Commission has investigated its merits and announced conclusions. Meantime it would be inappropriate for me to make other than general comments upon what we seek to accomplish by leasing the Junction terminals. The New York Central has long since been in need of an extensive amplification of its terminal facilities at Chicago. The opportunity to relieve this situation to the mutual advantage of the public, our connections and ourselves, has now been discovered in a surprisingly natural way.

In 1907 the Lake Shore road, through the medium of a switching subsidiary, acquired the outer belt line of the Chicago Junction Railway. This property is now operated as part of the Indiana Harbor Belt, which performs service in the outer Chicago switching district as an interchange connecting link between the trunk lines entering at Chicago. Its railroad complement is the railroad of which it was formerly a part, namely the Chicago Junction Railway has unlimited opportunity in the development of River & Indiana Railroad, comprises an extensive inner network of tracks spread through the heart of central manufacturing Chicago and serving a highly industrial territory.

Railroad expansion in this thickly settled industrial district has about reached its limit. These properties are bottled up, so to speak, within the community which they serve. Conversely the former outer belt line of the Chicago Junction Railway has unlimitd opportunity in the development of railroad facilities but no means of reaching, except indirectly, interior Chicago. Each of these properties therefore lacks important facilities which the other has and which neither could secure for itself. Handled together they will serve all the industrial territory tributary to each with higher efficiency. Furthermore to identify the Chicago Junction Railway properties with the New York Central Railroad ought to increase exceedingly their value to the industrial public and, on the other hand, such identification will enable the New York Central and its affiliated line, the Michigan Central, to greatly improve and extend their Chicago terminal service.

Should the Interstate Commerce Commission approve of our plan it would be our policy to continue the operating and traffic relationship now existing between the Chicago Junction Railway and other carriers operating at Chicago.

On opening the hearing, Luther Walter, counsel for the Pennsylvania, Baltimore & Ohio and six other lines reaching Chicago, opposed the application stating that the proposed acquisition would give the New York Central monopolistic control of the traffic of a great industrial portion of the city. He said that the roads he represented proposed to file an intervening petition suggesting a joint ownership of the junction lines, if they must be sold.

Certain shippers also protested, alleging that the acquisition would deprive them of certain rights, facilities and services now enjoyed and would greatly injure them and others. Another group of shippers filed an intervening petition, asking that if the Commission approve the petition of the New York Central, they do so in such terms and conditions as will fully and permanently protect shippers in their present rights, privileges, facilities and services or others to which they may be lawfully entitled, in which case they would have no particular interest in the matter.

The New York Central presented a petition at the hearing which it was said was signed by 395 of the 400 shippers on the junction lines, urging that the New York Central be permitted to buy the property.

The filing of the formal application with the Interstate Commerce Commission by the New York Central for authority to base and ultimately purchase the Chicago Junction terminal properties was noted in the *Railway Age* of January 7, 1921, page 32.

NORFOLK & WESTERN.—*Annual Report.*—A review of this company's annual report for 1920 appears on another page of this issue.

New Director.—A. C. Needles, vice-president in charge of operation and traffic, has been elected a director, and also a member of the executive committee.

Asks Authority to Sell Bonds.—The Norfolk & Western has applied to the Interstate Commerce Commission for authority to issue and sell $269,000 of 4 per cent convertible bonds, $1,213,000 of 4½ per cent convertible bonds, and $522,000 of 6 per cent convertible bonds now held in its treasury, to reimburse the treasury for expenditures.

RENNSSELAER & SARATOGA.—*Asks Authority to Issue Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue $2,000,000 of first mortgage 6 per cent. 20-year gold bonds, dated May 1, 1921, to be delivered to the Delaware & Hudson, which leases the road and which has also asked authority to guarantee the bonds, and which proposes to sell them to pay off first mortgage bonds of the Rennsselaer & Saratoga, which mature on May 1.

SEABOARD AIR LINE.—*Loan Approved by Commission.*—The Interstate Commerce Commission has approved an additional loan to this company of $1,451,500 from the revolving fund, in addition to $1,173,500 previously approved.

VALDOSTA, MOULTRIE & WESTERN.—*Sale.*—This road will be offered for sale in Savannah for the second time on April 9. There were no bids made at the first sale on February 22.

WESTERN PACIFIC.—*Asks Authority to Issue Securities.*—This company and the Denver & Rio Grande Western, the new company organized to take over the properties of the Denver & Rio

Grande, have filed a joint application with the Interstate Commerce Commission for authority for the issuance by the Denver & Rio Grande Western of 300,000 shares of common stock of no par value, representing the property of the Denver & Rio Grande. The Western Pacific Railroad Corporation of Delaware, the Western Pacific holding company, is to provide the funds necessary for the purchase of the properties of the Denver & Rio Grande and the proposed stock issue is to be assigned to the holding company, which will then control both the Western Pacific and the Denver & Rio Grande Western. The Western Pacific has also applied for authority to issue $4,180,000 of its first mortgage 5 per cent gold bonds to be sold to the holding company at 85 and to be exchanged by it for the bonds of the Sacramento Northern, whose stock is to be purchased for cash.

WHEELING & LAKE ERIE.—*Authorized to Issue Bonds.*—This company has been authorized by the Interstate Commerce Commission to issue $884,000 of refunding mortgage 6 per cent bonds, and to pledge them with the Secretary of the Treasury as partial security for a loan. The company has also been authorized to issue $1,351,000 of refunding mortgage 5 per cent bonds maturing September 1, 1966, to be pledged as collateral security.

Guaranty Certificates Issued

In addition to those mentioned in previous issues, the Interstate Commerce Commission has issued certificates to railroads for partial payments on account of their guaranty as follows:

		Previously advanced
Oregon Trunk	$40,000	....
Minneapolis & St. Louis	100,000	$2,350,000
Wabash	1,500,000	5,077,000
Live Oak Perry & Gulf	12,000	....
Wheeling & Lake Erie	455,000	500,000
Bennettsville & Cheraw	10,000	....
Gainesville & Northwestern	7,000	8,400
San Antonio & Aransas Pass	475,000	....
Charleston Terminal Co	50,000	....
Pittsburgh, Cincinnati, Chicago & St. Louis	4,000,000	6,100,000
Gulf, Florida & Alabama	356,360	200,000

The Treasury Department is paying the certificates as fast as they are issued and up to April 4 had paid out $103,000,000 in partial payments under the Winslow law.

Dividends Declared

Atchison, Topeka & Santa Fe—Common, 1½ per cent quarterly, payable June 1 to holders of record May 6.

Boston & Providence—2½ per cent, quarterly, payable April 1 to holders of record March 19.

Delaware, Lackawanna & Western—5 per cent, quarterly, payable April 20 to holders of record April 9.

Georgia Railroad & Banking—3 per cent, quarterly, payable April 15 to holders of record April 2 to April 14.

Meadville, Conneaut Lake & Linesville—2 per cent, payable April 2 to holders of record March 21.

New London Northern—2¼ per cent, quarterly, payable April 1 to holders of record March 16 to March 31.

Northern Railroad of N. H.—1½ per cent, payable April 1 to holders of record March 14.

Norwich & Worcester—Preferred, 2 per cent, quarterly, payable April 1 to holders of record March 16 to March 31.

Pere Marquette.—Prior preferred, 1¼ per cent, payable May 2 to holders of record April 14.

Pittsburgh & West Virginia—Preferred, 1½ per cent, quarterly, payable May 31 to holders of record May 6.

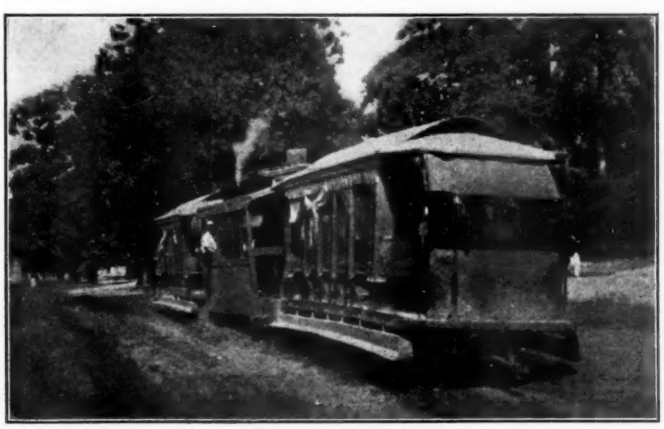


Photo by Underwood & Underwood

A Street Railway, Port-au-Prince, Haiti

Railway Officers

Executive

W. C. Morse, formerly superintendent of the Missouri Pacific with headquarters at Poplar Bluff, Mo., has been elected vice-president and general manager of the Louisiana Railway & Navigation with headquarters at New Orleans, La., effective April 5.

Operating

J. Bruner has been appointed trainmaster of the Colorado & Southern with headquarters at Cheyenne, Wyo.

George Geiger, assistant superintendent of the Virginian with headquarters at Princeton, W. Va., has resigned, effective April 10.

J. A. Gleason, whose appointment as superintendent of telegraph of the Chesapeake & Ohio was announced in the *Railway Age* of March 11 (page 576), was born February 10, 1859, at Portsmouth, Va. He was educated at private schools and at the Charlotte (N. C.) Academy. He entered railroad service in 1874 at Charlotte as a clerk and assistant operator for the Charlotte, Columbus & Augusta and the Atlantic, Tennessee & Ohio (both absorbed since by the Southern). In 1876 he went with the Richmond, York River & Chesapeake (also a part of the Southern). The following year he became personal telegrapher to President Rutherford B. Hayes and later served as chief operator on the government lines in Texas with headquarters at San Antonio. In 1882 he became a train dispatcher on the Richmond & Danville (now a part of the Southern). He went with Norfolk & Western in 1887 in a similar capacity at Lynchburg, Va. The following year he became a dispatcher on the Chesapeake & Ohio at Lynchburg and was later transferred to Clifton Forge, Va., and was promoted to chief dispatcher at Cincinnati, Ohio. From 1891 to 1898 he served the Norfolk & Western at Lynchburg, Roanoke, Va., and Crewe, Va., as a train dispatcher and night chief dispatcher. In 1898 he went to the Chesapeake & Ohio again as a dispatcher and, in turn, occupied the positions of chief dispatcher, division superintendent and special assistant to the general manager until, in February, 1921, he was appointed to his present position.

J. A. Gleason

D. W. Thompson has been appointed acting superintendent of dining cars and hotels of the Los Angeles & Salt Lake, with headquarters at Los Angeles, Cal., effective March 28, succeeding **W. M. Seeman,** deceased.

E. F. Lott, formerly superintendent of the Ft. Worth & Denver City with headquarters at Wichita Falls, Tex., has been appointed superintendent of the South Park division of the Colorado & Southern with headquarters at Denver, Colo.

D. P. Gerety has been appointed trainmaster on the Colorado division of the Missouri Pacific, with headquarters at Council Grove, Kan., with jurisdiction over the Council Grove district and the Salina branch, Central Kansas division, and the Great Bend branch and Hoisington, Kan., Yard, on the

Colorado division. **D. W. Hickey,** assistant superintendent on the Colorado division, with headquarters at Pueblo, Colo., has taken over the duties of trainmaster on the Hoisington district and that position has been abolished. The appointments and changes are effective April 1.

Frank O'Brien, superintendent of the East Iowa division of the Chicago & North Western, with headquarters at Belle Plaine, Iowa, who has been on an extended leave of absence, has resumed his duties, effective April 1, and **F. F. McCauley,** acting superintendent, has resumed his position as superintendent of the West Iowa Division, with headquarters at Boone, Iowa. Mr. McCauley succeeds **S. A. Morrison,** who has resumed his position as superintendent of the North Iowa division, with headquarters at Eagle Grove, Iowa. **G. E. Bonner,** acting superintendent of the North Iowa division, has resumed his duties as trainmaster, with headquarters at Eagle Grove, Iowa.

Financial, Legal and Accounting

Henry L. Stone, general counsel of the Louisville & Nashville, with headquarters at Louisville, Ky., will retire from active service, effective April 21.

George N. Yard, paymaster on the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., has been appointed acting treasurer, succeeding A. C. Torbert, whose death was announced in the *Railway Age* of April 1 (page 870).

G. W. Lamb has been appointed general auditor by the Association of Railway Executives under the provisions of Article No. 18 of the uniform express contract to audit the accounts of the American Railway Express Company. **C. H. Waterman** has been appointed assistant general auditor. The auditing bureau has its headquarters at 65 Broadway, New York.

Traffic

E. N. Todd has been appointed general foreign freight agent of the Canadian Pacific with headquarters at Montreal.

Thomas Y. Morris has been appointed commercial agent on the Atlantic Coast Lines, with headquarters at Chattanooga, Tenn., effective March 22.

R. Vaughan-Lloyd has been appointed district passenger agent of the Seaboard Air Line with headquarters at Richmond, Va., effective April 1, succeeding H. E. Bickel, resigned.

Z. M. Kincaid, district passenger agent on the New York, Chicago & St. Louis with headquarters at Buffalo, N. Y., has been transferred to Erie, Pa., in a similar capacity, effective April 10.

F. L. Talcott has been appointed general agent on the New York Central, with headquarters at Erie, Pa. The division freight agencies at Erie and Hillsdale, Mich., have been discontinued.

W. H. Andrews has been appointed general agent, freight department of the Toledo, St. Louis & Western with headquarters at Los Angeles, Cal. **J. R. Holcomb** has been appointed to a similar position with headquarters at San Francisco, Cal.

Engineering, Maintenance of Way and Signaling

R. D. Stewart has been appointed chief engineer of the Denver & Salt Lake, with headquarters at Denver, Colo., succeeding **V. B. Wagner,** who has been assigned to other duties.

Special

J. A. McGrew has been appointed superintendent of maintenance of the Delaware & Hudson with headquarters at Albany, N. Y., effective April 1. The maintenance department was formed, effective April 1, by consolidating the maintenance of way and structures, the motive power and the car departments. The superintendent of maintenance will be responsible for all maintenance work and will report to the general manager. The following officers will report to the superintendent of maintenance: Engineer maintenance of way, superintendent of motive power, master car builder, signal engineer and efficiency engineer.

Obituary

E. B. Crosley, vice president in charge of traffic of the Philadelphia & Reading died on April 3 at Philadelphia. Mr. Crosley was born June 27, 1865, at Clinton, Ill., and began his railroad career as a clerk on the Indiana, Bloomington & Western (now a part of the Cleveland, Cincinnati, Chicago & St. Louis) at Indianapolis, Ind. In 1890 he entered the service of the Philadelphia & Reading Coal & Iron Company as chief clerk to the general manager. After holding various positions with that company he was appointed assistant general freight agent of the Philadelphia & Reading in 1898. In 1907 he was appointed coal freight agent and subsequently general coal freight agent. During the period of federal control Mr. Crosley was a coal traffic manager and, when the roads were returned to their owners, he was appointed vice president in charge of traffic.

J. F. Keegan, general superintendent on the Baltimore & Ohio, with headquarters at Pittsburgh, Pa., died at Pittsburgh on April 1. Mr. Keegan was born at Cleveland, Ohio, on March 29, 1870 and was educated at St. Columbia's Academy in that city. He entered railway service in 1885 with the Cleveland, Columbus, Cincinnati & Indianapolis (now a part of the Cleveland, Cincinnati, Chicago & St. Louis). In 1890 he became a telegraph operator and car distributor on the Cleveland, Lorain & Wheeling (now a part of the Baltimore & Ohio). The following year he was promoted to train dispatcher at Uhrichsville, Ohio, and served in that capacity until 1902 when he became chief dispatcher of the Baltimore & Ohio at Cleveland. In 1903 he was promoted to assistant trainmaster and, in 1906, to trainmaster. In 1911 he was appointed division superintendent and served in that capacity until 1916 when he became general superintendent.

Rolla J. Parker, general manager, Western Lines, Atchison, Topeka & Santa Fe, died in the Santa Fe Hospital at Topeka, Kan., on April 1. He was born on June 27, 1857, at Roscoe, Minn., and entered railway service in 1872 as a brakeman on the Chicago, Milwaukee & St. Paul. In 1877 he was promoted to conductor and held this position until 1881. In 1884, after three years of service as a conductor on construction trains on the Northern Pacific, he entered the service of the Atchison, Topeka & Santa Fe, and has been with this road continuously for 34 years. In May, 1887, he was promoted to division road master. He was made general road master, with headquarters at Topeka, Kan., in December, 1892, and five years later was promoted to superintendent of the Middle division, with headquarters at Newton, Kan. From February, 1900, to January, 1901, he served as superintendent of the Western division at Pueblo, Colo.; from January, 1901, to April, 1903, he was superintendent of the Colorado division; from April, 1903, to June, 1905, he was superintendent of the Missouri division, with headquarters at Marceline, Mo., and on the latter date was promoted to general superintendent of the Western Grand division, with headquarters at La Junta, Colo. He was transferred to Newton, Kan., in August, 1907, but returned to La Junta in April, 1909. Mr. Parker served as general superintendent, Eastern lines, with headquarters at Topeka, Kan., from October, 1910, to September, 1916, on which date he was promoted to general manager, with headquarters at Amarillo, Tex.

R. J. Parker